THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

Det Bet Isle &Windsr Ferry Co 26

VOL. IX NO. 1. CLEVELAND. O., JANUARY 6. 1887. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND.

Meteorological summary for the week ending January 5:

Mean barometer	30.205
Mean temperatu e	15.2
Mean humidity	87.4
Total precipitation	.12
Prevailing direction of wind	S & SW
Total wind move	1249
Av. clouds	7.1
Av. state of weather	Fair
Max. temperature, highest	30.0
Min temperature, lowest	1.7

WILLIAM LINE, Sgt. Signal Corps, U. S. A.

Captain Estes, of the steamer Ohio, is in the city, on marine business.

Mr. Brown, of Brown & Co., vessel agents at Buffalo was in the city Tuesday last.

Captain James Stover formerly captain of the schooner Frank Perew, will sail the steamer N. K. Fairbank in 1887.

Thomas Maytham, of Buffalo, is in town this week. Mr. Maytham looks well, and is one of the best preserved men of the times

Captain William Cummings, late of the steamer Sparta, will sail the new steel steamer Cambria now being built at this port.

Captain John C. Thompson, of the steamer V. Swain will next season sail the new wooden steamer now building at Presley's yard for Palmer, Johnson and others.

Mr. Edward Dempsey, of Cleveland, has been appointed engineer of the heating apparatus of the custom house building at Cleveland. Mr. D. was last season chief engineer of the steamer Oceanaca.

Captain F. A. Fick, of Detroit, late master of the steamer Cumberland, will sail the steamer George F. Hope next season. Captain Fick goes to Bay City next Monday to look after some work being done on the Hope.

Captain C. C. Allen, of the steamer Robert J. Hackett, will command the new steel steamer being built here for H. H. Brown and others. Captain Allen was watchman on the Hackett when she came out new in 1870 and has been on her ever since in various positions from watchman to master.

On Wednesday, the 19th inst., there will be a dance at the armory for the benefit of Mrs. Lloyd, widow of Captain George Lloyd, who lost his life on the schooner Lucerne on Lake Superior this fall. It is to be hoped that all marine men will take an interest in this matter, and give Mrs. Lloyd a benefit that they can be proud of.

GODERICH.

The schooner A. C. Maxwell, which went ashore near Goderich December 11, still remains where she first struck. The wrecking expedition, consisting of the tug Admiral D. D. Porter, with steam pump, etc., came here to release her but had to return to Port Huron, being unable to do anything on account of the ice and severe weather. The vessel lies easy, and it is expected she will be got off next spring without further damage.

ST. CLAR.

Special to the Marine Record.

The following boats are laid up at this port: Steambarges Simon Langell, Kalkaska, Leland, Mackinaw.

Schooners—N. P. Goodell, A. Pard, Minnie Davis.

Barges—Margaret Goff, John Hanford, Chief, W. M. Case, J. Gibs.

Have begun work on the schooner N. P. Goodell, of which mention was made last summer. E.

CLAYTON.

Special to the Record Marine.

Following is a list of the vessels and steamers laid up at this port this winter:

Schooners—L. S. Hammond, John Wesley, American, Cornelia, Gipsey.

Steamers—J. F. Maynard, Juniata, Magic, Calumet, Sirius, G. B. Farrington, Annie Laurie, Jessie Bain, Rambler, Midget.

Yachts—Glad Tidings, Clayton Belle, Zadie, Bessie, Myra, Pamelia, Chris Wolf, Parole, Pride, Home. C. M. M.

CHICAGO.

Special to the Marine Record.

The propeller Fred Mercur was inadvertently left out of our list of vessels laid up at Chicago. Two of Captain J. S. Dunham's schooners the Lottie Wolf and A. Mosher have been chartered to load corn for Georgian Bay ports at 4 cents per bushel, these are the first charters to those ports for the coming season. The barque Scotia was chartered to load corn at 5½ cents to Buffalo she was loading at the Iowa elevator Tuesday, she carries 60,000 bushels.

The propeller Alaska and barge Annie Sherwood were chartered to load wheat for Buffalo at 5¾ cents. The tugs Morford and Tom Brown towed the Alaska to the Saint Paul elevator Monday to load.

Davison & Holmes, vessel agents, sold the schooner John Kelderhouse Monday to Lyman Phelton's, of Ogonstz, owner of the schooner Oak Leaf and merchant, and H. A. Christy, of Chicago, coneideration $10,000 cash.

William Saville, better known as English Bill, shipjoiner, is putting the pilot house, boiler and engine rooms and cabins on the tug Ruby owned by Bodenschatz G. Earnshaw.

Captain Charles Smith, of the steambarge Era, was here from Milwaukee last week visiting his friends.

Captain Jesse Hurbut intends to return to his home this week. Captain Long, of the schooner George, will look after the completion of the repairs on the schooner Golden Fleece which was commanded by Captain Hurlbut last season.

Captain David Cochrane, of the steamer John A. Dix, was in Chicago Tuesday on business.

Captain Simon O'Day arrived here Monday from Muskegon to look after the repairs to be made on his steambarge Hickox at the Chicago dry docks.

S. G. Moreland, formerly engineer on the steambarge Annie Laura, is here from Saugatuck. He will be engineer on the steambarge Ida M. Torrent with Captain Ladner next season. The Torrent will go into one of Miller Brothers' dry docks this week to receive steel arches, and her machinery and boiler will be put in first-class shape under the superintendence of her new engineer.

The steambarge building at Saugatuck by Captain John Martel for Captain Cummins and Wm. Griffin is already in frame and the work is being rushed on her to have her ready for startiug at the opening of next season.

Captain John Freer, of the schooner Geo. A. Marsh, goes to Milwaukee this week to look after the work to be done on the Marsh at the Milwaukee Ship Yard Company's, where she is to be lengthened 18 feet amidships and thoroughly calked all over.

Ed. Drulette, ship carpenter, is putting new deck frames and deck and Edward McGraw, ship joiner, is putting a new pilot house and texas to be placed forward instead of aft, as heretofore on the steambarge Michael Groh.

Captain A. J. Rice returned here New Year's day from Pentwater where he had laid up and put in good shape for next season his schooner the North Star.

Captain Lyman Phellus, of Ogontz, is visiting in this city.

At Miller Brothers drydocks the steambarge Annie is in for new planks on her bottom, the tug Munson to have a leak stopped, the tugs A. Mosher, Robbie Dunham, A. Miller and Gardner for new wheels, the propeller H. E. Packer is having her ceiling calked, the schooner Golden Fleece is having the repairs on her completed.

Wm. J. Burns, of Buffalo, engineer on the steambarge Ida M. Torrent last season, was married Wednesday evening, January 5th, to Miss Annie Gibbons, of Chicago. The happy couple were made one at the residence of the bride's parents, 292 North Branch street. Many of the bridegroom's brother engineers and friends were present and a very happy evening was spent by all. The newly married couple intend to make Chicago their home.

A new passenger steamer will be constructed by J. P. Smith during the winter for A. Booth & Sons: The new boat will have a 175 foot keel and 25 feet beam. As will be seen by these dimensions, she will be long and very narrow, like all other boats owned by the Booths. Her engines, which are being built by the Hercules Iron Works, will be fore-and-aft compound, with 40 inch bore high pressure, 22 inch bore low pressure cylinders, and 24 inch stroke. There will be two boilers of steel, each 6½x16. The contract calls for a uniform speed of fifteen miles an hour, and she is designed to be the fastest and finest boat of her class on the lakes. The intention is to run between Chicago and Manistique, touching at intermediate points, including Milwaukee. She will have stateroom accommodations for fifty passengers will carry miscellaneous freight and will cost about $30,000.

Mr. W. W. Bates, a well known ship builder, who has built many vessels on the lakes, recently averaged the ages of thirty of the large fleet of vessels that was lost on the lakes this fall. The result proved they had weathered the gales of seventeen seasons; one year loner than the average life of the British iron tramp. It is the white oak and the substantial construction that brings forth such good results in these vessels. Their hulls are all white oak, except their decks, and metal fastening is to be found whenever it will do good in frame, ceiling or outboard plank.

There are 418 vessels laid up at this port, representing a tonnage of 141,780.

Charley Roach, a well known tug captain of this port, has invented and patented an attachment to fix on the back of vessel rudders, which is calculated to give double the amount of steering power when attached than can be obtained without it, thereby prevent collisions, etc. It would be principally used by steam vessels, but would be of great use to badly steering sail vessels. It will give full control in reasonably smooth water and in shoal and winding streams; for instance, St. Clair River Flats, the Sault ste Marie, and Welland canals, Chicago and other rivers, and would be of great use in an ordinary sea to a steam vessel running light. It is made of steel and can be adjusted to or taken off the rudder, whether the vessel is light or loaded, in a few minutes, and is easily handled.

The brotherhood of lake marine engineers No. 2, Chicago, was held Tuesday evening last, at 200 South Water street, when the following officers were elected for 1887: M. Maher, chief engineer; Bart Bailey, first assistant; N. Duetcher, second assistant; Chas. Van Every, third assistant; Edward Reed, treasurer; Chas. Miller, guide; Jas. Neelis, chaplain.

The schooner Georger has been chartered to load corn for Buffalo at 5½ cents.

Captain Neal Blaney, who sailed the schooner Oak Leaf last season for Lyman Pheltus, will command the schooner John Keiderhouse the coming season.

Dan McLeod, ship carpenter, is putting new deck frames and decks on the schooner Lotus.

The schooner James Mowatt went to the Empire warehouse Wednesday to take on her load of flaxseed. She was towed by the tugs Union and Morford.

The annual meeting of the stockholders of the vessel owners' towing company will be held Tuesday morning, January 11, when the election of directors for 1887, will take place and the annual report of the company's business will be read by Geo. D. Kirkham, secretary of the company. The election of officers will be made soon after the meeting. WILLIAMS.

BUFFALO.

Special to the Marine Record.

It is reported that Murphy has sold the propeller F. E. Spinner to Adams and Farwell tow and the new purchase is wanted for towing the Godfrey.

Hingston & Woods have contracted with George H. Notter to build them a new tug, to be ready in May. She will be 58 feet over all, with 14½ feet beam and 6½ feet hold. Her engines are to be 15 by 17, and will be built by Sutton Bros. Her light draught fits her for dredge work, in which the firm is engaged. The tug Annie M. Pierce, which the new tug replaces, is offered for sale.

The Lehigh Valley Transportation Company has not yet made arrangements for building any new vessels, although it is reported by the lake papers that the line is to receive several additions this winter. The fact is that the drydocks all along the lakes are, as a rule, so full of business that they can fill no new contracts for present. Manager Henry states that he could sell the line very readily, but to build is not so easy.

The hull pool reports that it lost money last season. Though some talk of not getting up a pool for next year is heard, there is not much doubt of some attempt being made in that direction when the proper time arrives.

The lake season was not long enough last year, for a wonder. After the effort made by the line boats to clear Milwaukee of package freights, the warehouses are now full and there are 400 cars loaded besides awaiting the movements of the Grand Haven steamers.

The Gratwick, Smith & Fryer Lumber Company will only run one lumber tow with the Ed. Smith, and the latter's present tow will probably be given up, as they are not owned by the company. The new Gratwick, building at Bay City, will go into the general trade, as she will be of two heavy draught to go to Tonawanda. She will be ready in May.

Captain D. P. Dobbins, of Buffalo, superintendent of the Ninth Life Saving District has been in Washington for a day or two making arrangements for a leave of absence. Captain Dobbins intends to start on January 11th to spend the winter months with a son in Los Angeles, Cal. While here he has done all in his power to hurry along the plans and selection of a site for the station which has been authorized at the mouth of the Niagara River near Youngstown, as well as the rebuilding of the burned station at Salmon Creek. Captain Dobbins reports that there is urgent need of the passage of a bill authorising a station at Ashtabula, O., where, he says, there is a constantly growing commerce and no life saving station. It is likely that some action will be taken by Congress at this session to secure this.

MANITOWOC.

Special to the Marine Record.

Since the close of navigation the propeller Menominee, of the Goodrich Transportation line, was in drydock for new keelsons, bed timbers, frames, ceiling, rudder, and calking from keel up; the steamer Chicago, of the Goodrich Transportation line, same as above There is now in dock the barge E. S. Robinson for a thorough rebuild, after which comes the barge D. L. Filer, for the same, both of the Marinette barge line; also the schooners Nellie Redington, Ishpeming, Libbie Nau, and probably the A. O. Hanson.

Mr. H. B. Burger is building for himself one set of boxes; there will be four of them, each 35x50 feet, and they will be ready for use by the opening of navigation when he hopes to accommodate all who may require docking. B.

PEQUAMING.

Special to the Marine Record.

We have in this port the steambarge Alpena, Captain James Parsons; tug D. L. Hebard, Captain Jay Hursley; tug Jay C. Morse, Captain Wayne Hursley. These boats are owned by the Hebard & Thurber Lumber Co. JAY HURSLEY.

MARITIME LAW.

COLLISION—TUG'S FAILURE TO GIVE NOTICE OF APPROACH—PASSAGE THROUGH WATERS WHEREON VIEW IS OBSTRUCTED—FIFTH RULE OF BOARD OF SUPERVISING INSPECTORS

District Court, N. D. New York. October 23, 1886.

"Whenever a steamer is nearing a short bend or curve in the channel, where, from the height of the bank or other cause, a steamer approaching from the outside direction cannot be seen for a distance of half a mile, the pilot of such steamer, when he shall have arrived within half a mile of such curve or bend, shall give a signal by one long blast of the steam whistle." A failure to comply with this regulation, coupled with the circumstance that, until they were in close proximity, neither vessel was aware of the presence of the other, is sufficient to charge both with negligence.

In Admiralty. Collision. Libel *in rem* by the owners of one of two colliding vessels.

Benjamine H. Williams, for libelants.

George Clinton, for respondent.

Coxe, J. On the eleventh of September, 1885, at about 2 o'clock in the afternoon, a collision occurred between the steam tugs Eagle and Davitt, on the Tonawanda creek, about 50 feet from its mouth. The Davitt was proceeding down the Niagara river, from Buffalo to Tonawanda. The Eagle was passing down the creek, destined for a point half a mile up river. The creek, at its mouth, is about 175 feet in width, and navigable from shore to shore. The view from the creek to the river, and *vice versa*, was obstructed by lumber piles along the banks of each, so that the tugs did not discover each other until they were in close proximity. The Davitt then blew one blast upon her whistle, and was answered by a similar blast from the Eagle, indicating that each would keep to the right.

Each party has endeavored to prove unskilful seamanship on the part of his adversary after the tugs became aware of each other's presence. If the controversy were confined to what then took place, it would be a most difficult one to determine; for a record so replete with conflicting and irreconcilable statements is seldom presented to the court. All agree, however, that when the signals were exchanged the danger was imminent. According to the preponderance of proof, the space between the tugs at this time must be measured by less than 100 feet, and the time for action by less than 20 seconds. The peril was close at hand. It was a situation to unnerve the steadiest hand, and confuse calmest judgment. There is nothing, therefore, requiring severe criticism in the maneuvering of either tug at this time. Unquestionably, each endeavored, to the best of her ability, to avoid the accident. It would, in such circumstances, be unjust to impute negligence to a vessel because she departed, in some slight degree, from the strict rules of navigation, or to hold her liable because her master, having to do two necessary acts, reversed the order in which he should have performed them. It is quite clear that the cause of the collision must be sought for prior to the time referred to. The fault was in permitting the tugs to get into so hazardous a predicament. That both are responsible in this regard there can be but little doubt. Indeed, the presumption of mutual fault follows, as an almost necessary conclusion, from a mere statement of the fact that two steamers, unincumbered by tows, in a wide and unobstructed channel, and in broad daylight, collided in the manner disclosed by this testimony.

First, as to the Davitt. The fifth rule adopted by the board of supervising inspectors provides that "whenever a steamer is nearing a short bend or curve in the channel, where, from the height of the banks or other cause, a steamer approaching from the outside direction cannot be seen for a distance of half a mile the pilot of such steamer, when he shall have arrived within half a mile of such curve or bend, shall give a signal by one long blast of the steam whistle" And a note, following the eighth rule, provides that the "foregoing rules are to be complied with in all cases, except when steamers are navigating in a crowded channel, or in the vicinity of wharves. Under such circumstances, steamers must be run and managed with great caution, sounding the whistle, as may be necessary, to guard against collision or other accidents."

These are precautions which, even in the absence of regulations, would be dictated by common sense and common prudence. That the Davitt failed to give the signal provided by the rule is conceded, but her master asserts that, when approaching the creek, he gave a warning signal, consisting of three blasts of the whistle, which was followed soon afterwards by another signal of two blasts. It is impossible to locate the points where these signals were given with anything like accuracy, for the master has made at least three contradictory statements upon the subject. The first was made on the day of the accident, when the occurrence was fresh in his memory, and it is, to some extent, corroborated by collateral facts and circumstances. He there asserts that when within about 100 feet of the point he noticed, across the point, a tug approaching, and immediately blew two whistles for the port side, and received no response. He then immediately blew one whistle, which was answered by the Eagle. If this is a correct version of the transaction, it needs no comment to prove that a grave fault was committed. To signal that he would take the left side, and attempt to take it, and immediately thereafter change his purpose and his helm, and signal for the right side, was a course calculated to mislead and perplex the pilot of the approaching vessel. It is true that the master of the Eagle testifies that he did not hear the two blasts from the Davitt. If they were given, he must have heard them, and there is some evidence, based upon the conduct of his tug, indicating that he did hear them, and shaped his course accordingly. But, in any aspect of the case, the conviction is strong in the mind of the court that the Davitt failed to take the precautions which the circumstances demanded. She was close to the river dock—probably not over 30 feet out—when she shot past the corner at a rate of speed sufficient to carry her to the middle of the creek before she could be successfully controlled. When she was in a position to see what was approaching in the creek her bows were across its mouth. She took this dangerous course, knowing that a tug was in the creek, and that in maneuvering she had to contend against the swift current of the Niagara river. Surely this was a reckless disregard of the rule of navigation that in crowded channels, and in the vicinity of wharves, steamers must be managed with the greatest caution.

The foregoing considerations apply to the Eagle as well as to the Davitt. It is impossible to hold the latter in fault without including the former also. It is conceded that the Eagle, from the time she started from her dock until she was *in extremis*, gave no signal whatever, but proceeded, at the rate of about four miles an hour, directly down the creek, taking no precautions of any kind to notify passing vessels that she was about to emerge into the river. Of course this was negligence. The situation was similar in many respects to the case of the Troy, 28 Fed. Rep. 861, recently decided.

The libelants are entitled to a decree for one-half their damages and a reference to the clerk to compute the amount.

SEAMEN—LIEN FOR WAGES—PROCEEDING IN REM BY A MASTER TO RECOVER THE WAGES OF A SEAMAN—ACTUAL AND SUBSTITUTED MASTER.

Grinnell v. the John A. Morgan.

District Court, Connecticut. October 16, 1886.

One who is employed by the charterers of a vessel to act as master and who serves in that capacity will not be permitted to avail himself of a subterfuge as a means of recovering seaman's wages from the vessel. The fact that in the owners' application for a license the name of another person appears as master, will not estop them from showing the truth.

Libel by the master against his vessel for seaman's wages.

Shipman, J. This is a libel *in rem* against the steamer John A. Morgan for seaman's wages. The defense is that the libelant, although calling himself a seaman, was really the captain of the vessel.

In June, 1885, Fowler & Coburn, who are fish-oil manufacturers, chartered the steamer John A. Morgan for the Menhaden fishing season of four months. They succeeded, to a certain extent, to the business of the corporation of George W. Miles & Co., of Milford, of which corporation Coburn had been a stockholder. The libelant, Philip S. Grinnell, had been a master of one of the steamers of George W. Miles & Company and had been master of other steamers for years, was an expert fisherman, and commanded a high salary. He had received as much as $3,000 for the fishing season. Mr. Coburn knew his reputation, and that he had been one of Miles & Company's masters, and engaged him, in 1885, to "go fishing" for the firm upon one of their vesesls, at a salary of $1,500, and three cents per thousand for all fish caught in excess of 6,000,000. The libelant was to purchase the necessary outfit of seines, and was to hire all the men except the engineers.

The understanding of both Coburn and Grinnell was that the libelant was engaged as captain of the vessel, to be in full command of her, and in charge of the entire business. The libelant hired all the men except the engineers, and, among others, hired Daniel Grinnell to be the captain, at $50 per month. Daniel Grinnell was to be and was the pilot. Philip S. Grinnell now styles himself the master of the seine, who had the oversight of the fishing department. This vessel was what is call a "single-gang boat," in which the captain is, as a rule, the mastar of the seine. "Double gang boats" have two masters of seines, one of whom is the captain.

There is not sufficient evidence to enable me to find definitely the reason why the libelant chose to eall Daniel Grinnell the captain, but I believe it was because, as the result of George W Miles & Company's failure, said P. S. Grinnell thought that a captain has no maritime lien upon the vessel for his wages. The libelant was actually the captain of the John A. Morgan, and continued so to be till the end of the voyage.

Fowler & Coburn did not pay him in full, but sent him their notes for $541, the balance due him, which notes he retained, but he did not discharge whatever lien he had upon the vessel. They were in ignorance, until the last six weeks, that D. C. Grinnell was called master. His pretended employment as master was a subterfuge, and a fraud upon the owners of the vessel.

An important point in the libelant's case is that, in the owners' application for a license, and in their bond, and in the license, the name of Daniel C. Grinnell appears as master. R. Duncan Harris, of the city of New York, the managing owner of said steamer, signed, in said city, a bond to the United States for a license, in which the name of D. C. Grinnell appears as master. There is no evidence that said Harris knew that he was not master. The bond was sent to New London, where the steamer was lying, and Elias F. Morgan, as president of the Alberton & Douglas Machine Company, which company was agent for said owners, went with the said Daniel C. Grinnell to the Custom House of New London, where said Grinnell made oath, as master, before the deputy collector of customs. The said Morgan knew that Philip S. Grinnell was to take the boat for the season, and supposed that D. C. Grinnell was the pilot. The latter came to Mr Morgan, and said that he had been sent there to take the boat to Tiverton. Said Morgan went with him to custom-house, and permitted the use of his name as master, inasmuch as he was to be the temporary master, to take the vessel to Tiverton. Mr Morgan was too lax in permitting said Grinnell to take the oath, but, he evidently thought that, as the pilot was to take the boat to Tiverton, and the master was absent, there was no impropriety in the former's making oath, as master for that occasion. The laxity of Mr Morgan should not estop him or the owners from showing the truth.

The claimant of the libelant for a lien for seaman's wages is founded upon a pretense. He was not an ordinary seaman, but was the captain, and should not be permitted to gain a maritime lien through a subterfuge.

The libel is dismissed with costs.

ELECTRIC LIGHTING.

CHICAGO, Dec. 31.

Special Correspondence to the Marine Record:

Before I left my boat I told the chief engineer that I was going to reinstate myself in the Good Templars' Lodge, and that I would stick to it or die. So that is just what I did when I struck the city over at the end of the big bridge. I joined the I. O. G. T. Landed in this city, a few days ago, with the view of getting an opportunity of studying the question of electric lighting. Mr G. T. Galavan keeps a steam-fitting shop on Kinzie street. Right here, Mr Editor, is where I made my first fatal mistake, for in taking out a letter of introduction, given by my friend and benefactor, from my pocket, I made the mistake of getting a traveling card given me by Our Neighbors' Lodge of Good Templars.

"Here is a letter, which do me the honor to peruse," I said, handing the precious document to Mr. Galavan.

"Yes, your letter of introduction is very flattering," said Mr Galavan, introducing me to Mr Sullivan, of the Lehigh, Mr Chase, of the Ohio, Messrs Kennedy, Ponsonby, Webb, Wise, and other compound gentlemen, to whom he said something about my being a great writer, and above all, a high-pressure cuss from the Mississippi river.

"What can I do for you, sir?" asked Mr Galavan.

"I want to study electric lighting," I responded.

"Very good, then, we will have to make you a member of the Dynamo Club of the West Side, over which D. B. Ramsay is the president."

After a little more whispering, it was agreed that a committee would take me in tow, and take me to the lodge-room, which, they said, was in the boiler-room of Bill Brown.

Night had lowered her sable mantle over the world, when the committee presented themselves, and I was led forth to the slaughter.

They did not take me into the boiler-room until the "club" was regularly opened.

When everything was ready, the proper officer came to me and blindfolded me, and silently led me before the exalted tribunal, by whom I was greeted with a prolonged and hoarse growl.

"Are you willing to take the oath of universal obedience and partake of the liquid tie of unity? If so answer, I am."

"I am" came back the answer; but I was not the man who gave it.

"All right," said the chairman; "place the candidate on the carriage of life, and start him on his journey."

Two stalwart fellows now grasped me and set me down on a wheel-barrow, and started me on the journey. Passing down in front of the furnace, with its lurid glare reflecting through my hoodwink, they stopped."

"This," said the chairman, "represents the place to which you shall be consigned in case you violate your obligation. Do you understand? If so, answer, I do."

My genial escort answered, "I do."

They next took me alongside a Worthington duplex pump, upon which they had attached a hose with a sprinkling nozzle. When they had wet me pretty thoroughly, the chairman said:

"This represents the storm of life, and you will never again enter a land of sunshine if you violate your obligation. Do you understand? If so, answer, I do."

Again the doleful voice of "I do" came; but not from me.

"Prepare the gentleman to take the obligation by placing him in a sitting posture, his back against the wall. This was accordingly done.

The chairman then said: "Do you swear that you will obey all orders given you, and stick by the members of this order till death? If so, answer, "I will."

My escort generously responded, "I will."

"Then administer the liquid tie of unity," said the chairman, whereupon they proffered me a cup of something, which, I discovered, after I had drank about a pint of it, was whisky. When I began to feel the effect of my initiation, some one said, "I guess he will not hand out any more Good Templar cards in this city."

I am going to visit Cleveland in a few days, because this town is too small for me, and the engineers too hospitable entirely.

THE SECOND ENGINEER.

"DEFENSELESS" LAKE CITIES.

There seems to be a disposition on the part of some of the western members, when the question of fortifying our great seaboard cities is agitated in congress, to offset any grant asked for this necessary purpose by a demand for large sums of money for the protection of the cities of the great lakes. These cities, they say, are wholly without defenses, and they profess to regard their case as being as urgent as that of New York or Boston. It may be worth while to inquire what ground there is for placing such inland cities as Buffalo and Chicago in the same category with the two great depots of ocean commerce we have named.

Let it be remembered in the first place that there is but one power, and that power England, who can attack us on the great lakes. Captain Griffin, in an article published in the December number of the Journal of the Military Service Institution, shows that there are no less than thirteen different nations that have ironclads capable of attacking our seacoast cities, and he gives a list of the vessels of each nation by which such an attack might be made. The nations he names as possessing such ships are England, France, Germany, Russia, Italy, Turkey, Austria, Denmark, Holland, Spain, Brazil, Japan, and Chili—thirteen in all. Other things being equal, then, the likelihood of our seaboard cities being attacked by an enemy is just thirteen times as great as an attack on our lake cities, even assuming that the British could reach Buffalo and Chicago as easily as Boston and New York.

"But," say the advocates of lake fortifications, "we have no gunboats on the great lakes, while the British have more than one hundred of such vessels which they could pass up through the canals instantly to attack our cities. It is no doubt quite true that the Canadian canals are of great capacity, and that they have locks 240 feet long, 40 feet wide, and 14 feet deep, but they were not constructed with any view to warlike operations. Had they been so, they would be protected by works of some kind as a safeguard against sudden attacks from this side, but they have no such protection. On the whole Canadian frontier, from the Bay of Fundy to the Pacific, the Canadians do not possess a single fortification of any kind, nor is there one gun mounted in all that distance. The idea of an attack from Canada

is a chimera, and is only put forward apparently to defeat the meritorious plan of defending our seaport cities.

As for the British gunboats which seem to give some of the lake dwellers so much alarm they could, no doubt, be taken up the Canadian canals if subject to no interruption from this side. But as they would first have to be brought out from England under sail, which would take at least a month, there would be plenty of time for us, in the event of war to take meaaures to stop their progress. The northern frontier of this state extends for more than a hundred miles along the River St. Lawrence, and there are dozens of points where batteries could be erected sufficient to stop any gunboat, for these gunboats are not ironclads, but composite vessels that could be easily pierced by shells from rifled cannon. It would be practically impossible to pass gunboats up the St. Lawrence in war time, and it would be an absurd waste of time to attempt it. Any tug boat on the great lakes would make quite as good a gunboat as would be needed, and we have probably four such vessels on the lakes for every one possessed by the Canadians. The guns and the men to man them would be all that would be required to fit out an American fleet of gunboats on the lakes much more powerful than any it would be likely to meet. The people of the lake cities may therefore possess their souls in patience, and should not give way to needlses alarm.—*Brooklyn Eagle.*

TRIPLE EXPANSION MARINE ENGINES.

The last few years may be regarded as a transition period in the history of marine engineering, as the high-pressure triple-expansion engine has now proved the successful rival of the double-expansion compound. The object of the present paper is to bring forward the results of experience with this new type of engine, and to consider briefly the various points which have a direct bearing on its efficiency, as well as the most suitable design for marine purposes.

There has been great difference of opinion regarding the best method of placing the three cylinders in a triple-expansion engine of ordinary size; and some very crude plans have been adopted since the introduction of the system by Mr. Kirk in the Propontis. The high-pressure cylinder placed on the top of either the intermediate pressure or the low pressure has been tried, together with many schemes to lessen the difficulties of overhauling, whilst the main objections to this design appear to have been overlooked. With the exception of what was being done in the matter by Mr. Kirk, no further attempt seems to have been made to construct small power triple expansion engines on three cranks until about three years ago, when the writer undertook to build one of 700 I. H. P. which should fulfil the condition that no more space was to be occupied than would have been taken up with an ordinary compound. Engines of small power had previously been constructed on the tandem principle; but experience had shown the writer that, in order to take full advantage of the triple expansion system, an engine must be built on three cranks placed at equal angles; and the best proof that this was the correct solution of the problem, is the fact that the arrangement is now almost universally followed, although at the time it was considered by the advocates of the tandem engine and others to be a step entirely in the wrong direction.

The most important conditions to be considered in order to obtain an efficient engine are that there should be an approximate equality—firstly, in the range of temperature in each cylinder; secondly, in the initial stress on each crank; and, thirdly, in the I. H. P. of each engine. What may be termed the complements to these three essentials are: (1) steam jacketed cylinders; (2) cylinder ratios; (3) velocities of initial and exhaust steam; (4) clearance and compression; (5) receiver capacity; (6) piston speed; (7) order of sequence of cranks.

The subject of steam jackeiing, and of fitting cylinders with working barrels cast separately, has undergone considerable discussion among engineers, although the theoretical advantages of the system have long since been admitted. Keen competition seems evidently to have been one of the reasons why this fitting in many instances has been discontinued, in order to meet the demand for a cheap engine. Thorough investigation of the subject is beyond the scope of this paper; but the action of the cylinder surface, producing as it does an influence on coal consumption, deserves more attention than it often receives. In a single cylinder engine with a high ratio of expansion and a large range of temperature, it is well known that in each stroke there is excessive initial condensation, followed by partial re-evaporation. In triple expansion engines, where attention is paid to the equal division of the total range of temperature among the cylinders in which the successive stages of expansion take place, the benefits arising from the use of jackets are naturally not so great as in a single cylinder engine with a high ratio of expansion; but however carefully the triple engine may be designed, the jacketing of at least the intermediate and low pressure cylinders is essential to maximum efficiency.

Beyond the actual economy resulting from steam jacketing, there are numerous practical advantages of a working barrel cast separately. The cylinder barrel being one of the most vital parts of an engine, it is essential that it should be of the finest material and of uniform quality, in order to prevent it from wearing unevenly, as an oval or uneven cylinder means a leaky piston and increased coal consumption. In the case of a cracked cylinder without an independent liner, the expense of renewal is very great, while a new liner costs but little; and the additional facility given for heating up cylinders fitted with independent liners is a safeguard against accidents of that description.

The ratio of cylinder capacities in a triple expansion engine depends on the pressure of steam and the type of engine. In cargo steamers, where economy of fuel is of vital importance and a large range of reserve power is not necessary, the high pressure cylinder should be of such a diameter that with a cut-off at from 50 to 60 per cent. the theoretical absolute terminal pressure in the low pressure cylinder shall not exceed 10 lbs. per square inch. In war ships, where a large range of power is sometimes required and economy of fuel is not so important, the high pressure cylinder should be larger in proportion, so that a higher mean pressure can be obtained. In triple expansion engines on three cranks the intermediate cylinder should be so proportioned that, with 55 to 65 per cent cut-off, the powers, the ranges of temperature, and the initial stresses in the three cylinders may approach equality.

To obtain even approximate equality in powers, temperatures, and stresses, requires the greatest care in designing the steam passages throughout the engine; and unless the velocities of the steam at the various points, and the degrees of cut-off by the valves, are carefully proportioned, it will be found that these three elements of economy and of efficient working are very far from being realized. The greater number of published results show that the subject is still inadequately appreciated. * * *

The use of piston valves on the intermediate and low pressure cylinders, especially in the engines of moderate power, serves to illustrate how the indirectness of the valve passages impairs the efficiency of the steam, and in some cases more than balances the beneficial effect of reduced friction in the machinery.

The low pressure cylinder is of course the source of the greatest inefficiency; and too much care can not be taken in the design of the steam ports and exhaust passages. The ports should be as small as possible, so as to reduce the clearance to a minimum; and the speed of the entering steam should not be so high as to cause excessive frictional resistance, nor the speed of exhaust so high as to augment the back pressure; consequently the greatest efficiency is obtained when the revolutions and I. H. P. are not required to vary to any great extent. On the light-ship trial the engines were run at seventy-eight revolutions and the vacuum was then 1¾ lbs. less than with the same cut-off at sixty-eight revolutions, the loss being entirely due to the excessive exhaust velocity consequent on driving the engines at a greater speed than they were designed for.

Contracted or indirect exhaust passages in the high pressure and intermediate cylinders have the effect of causing a larger difference between the back pressure on one piston and the initial pressure on the next, thus diminishing the efficiency of the steam.

The cut-off necessary to maintain the equality of the three essentials for an efficient engine is governed to a great exfent by the speed of the entering steam and the nature of the passages, inasmuch as the same amount of steam per stroke may enter the cylinder at the ordinary working number of revolutions per minute, as at a higher speed with later cut-off and larger port-opening; and in the latter case the difference will be greater between the actual and the effective cut-off—*Robert Wyllie in London Marine Engineer.*

"Lewis' Marine Manual is a work which will meet a much felt want. Everyone owning or handling vessel property should possess a copy. The matter is well arranged, and all legal formalities and technicalities so thoroughly explained that anyone can understand them." A. R. GORDON, Lieut., RoyalN avy.

Subscribe for the ARINE RECORD.

WARD & JACKSON,

SHIPSMITHS.

All Kind of Forgings, Bolts and Truss Rods for Building.

49 Main-st Cleveland

After Forty years' experience in the preparation of more than One Hundred Thousand applications for patents in the United States and Foreign countries, the publishers of the Scientific American continue to act as solicitors for patents, caveats, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries. Their experience is unequaled and their facilities are unsurpassed.

Drawings and specifications prepared and filed in the Patent Office on short notice. Terms very reasonable. No charge for examination of models or drawings. Advice by mail free.

Patents obtained through Munn & Co. are noticed in the **SCIENTIFIC AMERICAN,** which has the largest circulation and is the most influential newspaper of its kind published in the world. The advantages of such a notice every patentee understands.

This large and splendidly illustrated newspaper is published **WEEKLY** at $3.00 a year, and is admitted to be the best paper devoted to science, mechanics, inventions, engineering works, and other departments of industrial progress, published in any country. It contains the names of all patentees and title of every invention patented each week. Try it four months for one dollar. Sold by all newsdealers.

If you have an invention to patent write to Munn & Co., publishers of Scientific American, 261 Broadway, New York.

Handbook about patents mailed free.

Cleveland Drydock Co.,

Shipbuilding, Drydocking, Repairing and Spar Making.

CLEVELAND, OHIO.

SPIEGLE BROS.

MARINE SUPPLY STORE

WHOLESALE AND RETAIL

Grocers. Bakers and Ship Supplies;

Fresh & Salt Meat of all Kind.

30 & 32 River-st., opposite Detroit Steam boat Landing, and 184 Broadway. Telephone 112,

CLEVELAND, OHIO.

Established in 1859.

HENRY LEOPOLD.

Manufacturer and Dealer in all kinds of fine and plain

FURNITURE & UPHOLSTERY,

And Manufacturer of Counters, Shelving, Bank and Bar-room Fixtures.

Mattrasses and Vessel Furniture

A SPECIALTY.

Warerooms 798 and 800 Lorain-st., near Fulton. Factory 10 Willet-st.

CLEVELAND, OHIO.

GEORGE SAAL'S SON.

Copper-smithing of all Kinds.

VESSEL WORK A SPECIALTY.

403 and 405 Detroit-st., corner Duane-st.,

Telephone 1638. CLEVELAND, O.

AN IRON MINE FOR SALE.

This mine is on the shores of Lake Huron, close to a good harbor. First-class ore, assayed 70 per cent pure iron. This ore is said by experts to be much better than Lake Superior iron ore and the only ore of its kind so far discovered on this continent capable of making Bessemer steel. Will sell outright, on shares or a royalty. Specimens of ore furnished and inspection of mine solicited.

Also, two silver mines on Lake Superior, close to a good harbor. Specimens furnished. Apply to MARINE RECORD, Cleveland, Ohio.

LAKE SHORE & MICHIGAN SOUTHERN.

Commencing Sunday, Nov. 14 1886 at 5 o'clock p. m the time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive	Depart.
No 4, Fast Limited Express	*2 55 A M	*3 05 A M
No 8, N Y, B & A Express	*8 25 A M	*8 55 A M
No 26, Elyria Accommodation	†7 45 A M	
No 24, Buffalo Ac'm via Sandusky	†10 30 A M	†10 45 A M
No 24, Toledo Accom via Norwalk	†10 30 A M	†10 45 A M
No. 10, New York "Flyer"		*12 noon
No 12, N Y & B Fast Express	*2 10 P M	*2 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	
No 26, Conneaut Accommodation	†4 25 P M	
Westward.	**Arrive.**	**Depart.**
No 1, Fast Limited Express	*12 15 A M	*12 25 A M
No. 23 Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	§5 20 A M	6 35 A M
No 25, Mich Accom Norwalk		†6 30 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	*10 45 A M	*10 50 A M
No 9, Chi Pac Ex via Norwalk	*6 15 P M	*6 40 P M
No 31, Elyria ac to Elyria only		†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	

Sunday train for Nottingham—Depart 8:15 a. m and 1:45 p. m.; returning, leave Nottingham at 8:50 a. m. and 3:45 p. m.

Reference marks—* Daily, † daily, except Sunday, § daily, except Monday.

A local Cleveland and New York sleeper and dining car daily on No. 10, leaving Cleveland at 12 noon; arrive Grand Central depot, New York, 7 30 a. m.

For full information as to trains and connections apply at the Union ticket office, corner Bank and Superior streets, under Mercantile Bank.

M. E GAUL, City Passenger Agent.

W. P. JOHNSON, Gen'l Pass. Agt., Chicago. Ill.

The Nickel Plate!

NEW YORK, CHICAGO & ST. LOUIS RAILWAY.

The passenger equipment of this New Trunk Line is all new and is supplied with the latest appliance necessary to safe speedy and comfortable travel.

Trains leave and arrive at the Union Depot, Van Buren street, Chicago, and N Y, L E & W R'y depot at Buffalo.

Following is the time in effect April 25, 1886, and until further notice:

EASTWARD.	Arrive.	Depart.
Buffalo Passenger	*10 40 A M	*10 49 A M
Chicago Passenger	*9 10 P M	
Local Freight	* 4 40 A M	* 5 45 P M
WESTWARD.	**Arrive.**	**Depart.**
Chicago Passenger		*6 30 A M
Fostoria Passenger	*4 46 P M	*4 51 P M
Local Freight	* 5 00 P M	* 5 50 P M

ROCKY RIVER ACCOMMODATION.

Depart—7:40 a. m., 1:35 p. m.

EUCLID ACCOMMODATION.

Depart—6 24 a. m, 9:10 a. m,. 5:05 p. m.

Through tickets to all points are on sale at principal offices of the company at LOWEST RATES for any class of ticket desired. Baggage checked to destination

For information, call on nearest agent of the Company, or address B. F. HORNER, Gen'l Passenger Agent,

LEWIS WILLIAMS, General Manager. Cleveland, O.

WINTER TOURS TO THE

South, Texas, Mexico, California

VIA

BEE LINE

On November 13, 1886, a through line of elegant

Reclining Chair Cars Free,

was established between Springfield, Dayton, Union, Indianapolis and St. Louis.

Eastward from Columbus, Cincinnati, Indianapolis and St Louis, this line is the quick

THROUGH CAR ROUTE

TO

EASTERN CITIES.

A. J. SMITH, General Passenger Agt.,

BEE LINE,—(C C C & I R'y. D. & U. R. R.—I & St. L. Ry.)

VESSEL OWNERS AND AGENTS.

WARNER & BECKER,

Vessel Agents and Brokers,

ROOM 10,

Arcade B'ld., 101 St. Clair St.,

CLEVELAND, OHIO.

H. J. WEBB & CO.,

Ship Brokers, Vessel Owners and Agents.

[ESTABLISHED IN 1856.]

H J. WEBB & Co., will charter Vessels for Lake Trade. Special attention given to Chartering Vessels in the Lake Superior Iron Ore Trade, both for the season and single trip.

ARCADE BUILDING, 101 ST. CLAIR ST.,

Room 27. Cleveland, Ohio.

TELEPHONE { Office, No. 338. Residence, No. 1328.

THOS. WILSON

MANAGING OWNER

Wilson's Transit Line.

Gen. Forwarder. Freight and Vessel Agent.

CLEVELAND, O.

J. J. H. BROWN. EDWARD SMITH

BROWN & CO.,

Ship Brokers and Agents.

Special Attention given to Surveying, Appraising and Settling Marine Losses.

Exchange Building, 202 Main-st., Buffalo, N. Y.

ALEX McDOUGALL,

VESSEL AGENT AND BROKER,

Duluth.

Owners and masters of vessels wishing to get cargoes of grain from this port will do well to confer with me. Will be glad to furnish information in regard to cargoes, also in relation to docks, depth of water, etc., at **Duluth, Agate Bay** (new iron ore port), **Port Arthur, Washburn, Ashland,** and all points near the west end of Lake Superior. Good gangs of men furnished on short notice for trimming cargoes of grain, loading and unloading all kinds of freight.

PALMER & BENHAM,

Vessel Owners & Agents,

New Bank Building, corner of Superior and Bank Street, Cleveland, Ohio.

MOORE, BARTOW AND GILCHRIST,

Ship Brokers and Agents,

No. 104 St. Clair Street, Room 15.

CLEVELAND. OHIO.

JAMES T. ROSE,

Vessel Agent and Broker,

Room 4, Exchange Building, Duluth, Minn. I have an excellent gang of Trimmers this season, Captain Miller's old Crew.

Special Attention Paid to Chartering Vessels, and seeing that they get dispatch in Port.

CORRESPONDENCE SOLICITED.

JOHN P. DEVNEY,

Marine Collector.

Collections Promptly Attended to.

ASHTABULA HARBOR, OHIO.

PROCTORS IN ADMIRALTY.

ROBERT RAE,

Admiralty and Insurance Law Office,

Room 37 Merchants' Building, CHICAGO, ILL.

GEORGE E. HALLADAY.

Attorney and Proctor in Admiralty.

Marine Business Promptly Attended To.

OFFICE 21 BUHL BLOCK, DETROIT, MICHIGAN.

WM. H. DeWITT,

Attorney and Proctor in Admiralty.

ROOM No. 6, BLACKSTONE BLOCK.

CLEVELAND, OHIO.

A BIG OFFER. To introduce them we will GIVE AWAY 1,000 Self Operating Washing-Machines. If you want one send us your name, P. O. and express office at once. The National Co. 23 Dey St., N. Y.

CAPT. GEO. A. SIMPSON,

Compass Adjuster,

COMPASSES, BAROMETERS, PATENT LOGS AND MARINE GLASSES REPAIRED,

Schooners can have their Compasses Adjusted for Local Attraction at the time of repairs by stating how much they are out on East or West Courses, and which way it leads, North or South of above Courses.

161 River St., Cleveland, O.

Vesselmen

SHOULD HAVE

OUR MARINE LAW BOOK,

—ON—

Seamen, Owners,
Freights, Charters,
Towage, Registry,
Collisions, Enrollments,
General Average, Common Carriers,
Duties of Seamen, Masters & Owners,
Bill of Lading, Wages, &c.

Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building] Cleveland, O.

A. A. POMEROY, EDITOR AND PROP'R

TERMS OF SUBSCRIPTION:

One year, postage paid.....$2.00
Six months, postage paid.....1.00
Invariably in advance.

THE MARINE RECORD can be found for sale by the following news dealers:

CLEVELAND, O.—G. F. Bowman, corner of Pearl and Detroit Streets.

Evans & Van Epps, Superior street, Cleveland.

R. A. Castner, 254 Detroit street, Cleveland.

ASHTABULA HARBOR, O.—C. Large.

CHICAGO, ILL.—Joseph Gray, 9 West Randolph Street.

CHICAGO, ILL.—August Semper 345 Noble Street.

BUFFALO, N. Y.—Miss McCabe, Elk Street, near Ohio.

DETROIT, MICH.—N. F. Stewart, Ft. of Woodward Av.

DULUTH, MINN.—C. F. Johnson, 117 West Superior Street.

MARQUETTE, MICH.—J. A. Vannier.

ESCANABA, MICH.—Wm. Godley.

SARNIA, ONT.—D. McMasters.

MATINE CITY, MICH.—McNiff & Son.

Subscribers and others are respectfully invited to use the columns of the MARINE RECORD for the discussion of pertinent topics.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., THURSDAY, JAN. 6.

OUR NEW YEAR'S GREETING.

Since the MARINE RECORD made its appearance, the old year has died and the new one has been born. May the callow cherub of time deal gently with us all before it surrenders its powers to its inevitable successor. The old year was not over kind to poor humanity, especially to that portion of it which has to do its business upon the great waters. But a few months ago, how many a stout, brave and hopeful sailor lad relieved the rigors of his toil by dreaming of the merry Christmas and happy New Year he would spend at home when navigation had closed for the season! But hundreds of these are gone now. They perished at the touch of the fierce, frosty breathings of the decaying year, mourned by their messmates. Philosophers and poets tell us—(as Shelley deeply intimates in his beautiful lament for Adonais, when he mournfully sings:

"Life, like a dome of many colored glass,
Stains the white radiance of eternity")—

that time is but a convenient term used by mortals, the mere short, intermediate link between the past and the future; that the complete chain is eternity; that there is in reality no past, no future, but all is eternity. Man, however, need care little for these fine definitions. The present is his, and it is for the present he has to care with whatever of joy or sorrow it may contain.

While, therefore, we mourn the hundreds of good fellows who have let go their last halyard and sank into the depths of eternity, the living are still with us to cheer us, to help us, and to comfort us. And to these the RECORD extends all the congratulations of the season. Especially for those who "go down into the deep in ships" does it hope that the baby year now with us will strive to make for all lake mariners a thorough (no-nonsense-about-it) "happy new year." If, however, they will not, then the MARINE RECORD, at least, which has no small malice about it, will wish that 1887 may be throughout the whole lake region a better year than any of its predecessors. The RECORD is doing well, and it wishes well to everybody.

THE INTER-STATE COMMERCE BILL.

It is satisfactory to know that public attention is being directed to Senator Cullom's inter-state commerce bill, with the probability that that measure will be defeated when it is placed seriously before congress. The railroad companies are using all their influence to get the bill passed. There are signs of the fact in a dozen newspapers. The publicity, however, which has been given to the bill, promises to lead to its defeat. From the latest accounts it does not appear to be possible that it can pass unless the railway companies are compelled to make reasonable discrimination in their haulage rates.

The Cincinnati Inquirer, in discussing the bill, takes up ground which the Cleveland press very justly and ably takes exception to. "If," says the Enquirer, "Mr. Reagan, whom we consider to be a very able man, save for his failing of taking a bath at the wrong time, will kindly permit of it, we should like to ask him a question: When he goes to a wholesale grocery and buy $1,000 worth of goods does he not expect to get a price closer to cash than when he buys $5 worth. And by the same token, when a man ships by railroad $1,000,000 worth of freight a year, should he not have lower rates than the man who ships $500 worth. Will Mr. Reagan kindly forget his interstate commerce bill long enough to answer these two questions?" The sneer at Mr. Reagan is unworthy of the Enquirer. It is Mr. Reagan's bill that is before the country, and not his personal habits or peculiarities. But while the Enquirer's sneer, with all its ungraciousness, may be passed, the fallacy underlying its argument ought not to be passed unnoticed, because it is one of those attractive fallacies which occasionally creep into public politics and are utterly mischievous.

As the Press points out, there is a difference between a grocery and a railroad. A private business, whether it is a grocery or not, is a legitimate enterprise which a private individual can conduct as he pleases. If he mismanages it, that is his business. Public competition will keep him in the right path, from which he dare not deviate except at his own risk. A railroad, however, is not a private business. It is a corporation which is permitted to exist by the representations of the public for the benefit of the public. It certainly is not—at all events it ought not to be—a concern battening itself upon the public. "The grant of a charter, then, to a railroad is merely a commission to do business as a public servant, under rules and regulations fixed, or to be fixed by law. In other words, a railroad is a creation of the people, and as such is logically answerable to the people, unless it is possible for the created to become greater than the creator." So the Press argues against the Enquirer's specious argument.

Now, if a railroad corporation exists for the benefit of the public, it ought to have reasonable short haulage rates in every state through which it passes. The idea of having only one rate from seaboard to seaboard may be a clever one from the point of view of a company or corporation, determined to aggrandize the trade of the United States and destroy whatever traffic legitimately belongs to the lakes. It is not, however, one which can be of advantage to the country generally, and railroads ought to be permitted to exist only for the sake of the country generally. Every state traversed by such a road ought to be benefited in return for the privileges it accords to the company. Interstate commerce should exist in fact, and not in name only, and there can be no genuine interstate accommodations which do not provide proportionate mileage rates.

The Milwaukee, Lake Shore & Western Railroad is transporting ore to Chicago furnaces direct from the mines in the twenty-ton ore cars used for summer shipments to Ashland. The Colby, Iron Chief, and other mines have contracted to deliver amounts ranging from 20,000 to 25,000 tons to Chicago furnaces before the 1st of May. Business is lively in consequence, and the mines are all working large forces.

In 1886 the Saginaw River mills manufactured 798,826,000 feet of lumber, 227,463,000 shingles, 100,000,000 pieces of lath, and have now on hand 315,000,000 feet of lumber.

CANADIAN LIFE SAVER.

MARINE DEPARTMENT, CANADA,
OTTAWA, January 18, 1886.

Sir: I have to acknowledge receipt of your letter of the 7th instant detailing the circumstances attending the rescue by Captain Babb and his crew, of yourself and crew, when your schooner A. C. Maxwell was recently wrecked and recommending the establishment of a life saving station at Goderich. In reply I am to inform you that it is very gratifying to the department to find that Captain Babb and his crew behaved so gallantly on the occasion referred to. I am also to inform you that a life saving station has been established at Goderich, and that the service rendered to you was performed by the crew under Captain Babb, and in the life boat placed by the government at the station. No rocket apparatus has as yet been supplied but the matter will be considered.

I am sir your most obedient servant,

WM. SMITH,
Deputy Minister of Marins.

Captain Wm. Packer, 101 Herman street, Cleveland.

GODERICH, ONT., Dec. 22, 1886.

Captain Wm. Packer:

Sir: Your kind favor of the 19th inst. to hand and in reply I wish to say that I am extremely obliged to you for the interest you intend to take in myself and crew, and I trust you will be rewarded for your efforts in our behalf.

You request me to send the letter you received from our deputy minister of marine I have done so which please find enclosed.

You will find that he says a life savin station has been established at Goderich You know better than that. The government gave the boat but she is manned by a volunteer crew, and good ones they are. I have had a proof of what my crew are made of this fall on two occasions. I had to put them on their mettle, and they proved as true as steel when I called on them, and they took their lines in their hands and said Babb we will go with you. What was the result. On both these occasions I was successful in rescuing the crews of two disabled vessels, one in a gale from the southwest driven ashore to the north of Goderich. Vessel and cargo total loss. The second one driven ashore also to the north of Goderich in a hurricane from the southwest. The vessel got off again by tugs after the storm and now hauled out in Goderich for repairs. You request me to give you an account of what I have done this fall. You will find it here if it is of any use to you. I have put it on a sheet by itself so that it will be separate from your letter. I must now draw to a close, trusting to hear from you soon and also from the headqnarters of the American Government. Kind regards to Billy and the rest of your family with the happy returns of the season.

CAPT. WM. BABB, Goderich, Ont.

DULUTH DRYDOCK.

Every year the want of a drydock at Duluth is more apparent, and the necessity for such an institution daily becomes more pressing. If Duluth had a drydock there is no reason why a large fleet of barges and vessels should not lay up for the winter in Duluth harbor, but as it is necessary that every steamer at least, should go into dock before she is fitted out for the summer season, the mangers of most of the lines will not allow their ships to winter at a point where there are, at present, no facilities for inspecting or repairing them effectually This, in effect, was the answer of several managers of the various steamboat companies last fall, in response to a request by committees of the Duluth Board of Trade and other kindred institutions when the companies were requested by these bodies to winter some of their boats here, so that they could be used to store wheat in, and if the receipts of wheat at this point should continue to be as heavy as they have been, and now are, the want of the extra storage room that these large boats would have afforded, may result in considerable inconvenience to the grain men of Duluth.

What is wanted is a dry dock, construc and owned by men who are concerned in the prosperity of Duluth. Duluth is not offering any big inducements to outside corporations to come here and make a speedy fortune, by the aid of a mammoth bonus, the gift of a valuable site free gratis, and all that sort of thing. On the contrary, she wants her own citizens to take hold of this particular matter, and run it in a regular liberal Duluth manner, so that the treatment that is accorded to vessel captains and their owners may be an actual inducement to bring or send their ships to this port for repairs.

The gentlemen who were here from Chicago last summar were too modest ever to make a success of a dry dock in Duluth. In order to come here they only asked for the best forty acres on St. Louis River for a site, for which they agreed to pay—nothing; only for a small bonus, just enough to build and equip their dock, and they also thought that they should be exempted from all manner of taxation for at least ten years. In return for these trifling favors they kindly agreed upon their part to furnish the needful experience to make the enterprise a success, which would bring a golden harvest to their own pockets. They were pretty nearly disinterested, but somehow Duluth did not seem particularly struck with the beauties of their plan, and they returned to Chicago.

There is no occasion for Duluth to entertain any such schemes as these. Our citizens think nothing of building an elevator or two when the occasion demands, but they are strangely apathetic upon the subject of a dry dock, which, if conducted in a businesslike manner, would pay as surely and as well as a grain warehouse. Is this to continue? Are we to allow a foreign corporation to step in and reap the benefit of what ought to be one of Duluth's great industries, namely, that of ship building and ship repairing? This is a question for our business men to answer, and that speedily, for chances like this to acquire wealth are not usually left out in the cold for any length of time, and that the attention of all marine men along the whole chain of the lakes is drawn to the fact that not a single drydock exists anywhere upon Lake Superior, it is safe to predict that the coming season will see one constructed either here or at some other point on the lake, where probably the people are more alive to their most vital interests.

HEROES WHO NEVER KILL.

The thousands of friends of Captain David Porter Dobbins of this city will send a legion of protecting good wishes with him when the sturdy life saver goes across the continent a week hence to enjoy a brief relaxation in sunny California. The captain has a son in Los Angeles, at whose home his headquarters will be made while on the Pacific coast. During the past week, though ice blocks all the harbors on the lakes and prevents alike navigation and wrecks, Captain Dobbins has been busy advancing the usefulness of the service. He has been at Washington preparing plans and selecting a site for the new station at Youngstown, at the mouth of the Niagara, and also urging the establishment of a station at Ashtabula, Ohio, for which congress is expected to provide during the present session. The ninth district, which includes all the American coasts of Lakes Erie and Ontario and the connecting rivers, has been made as safe as physical conditions and the limits of expenditures would allow, and to the untiring efforts of Captain Dobbins and the excellent discipline of the men in the stations under his charge the thanks and praise of a well-served public are due.

Back of Captain Dobbins in this noble work ably supporting his efforts is Superintendent Kimball, the head of the general life saving service, with whom Captain Dobbins has been in consultation in the past week. Mr. Kimball is like the captain, an enthusiast in the work of saving lives. He is one of the heroes who never kill. Such heroes are born, not made—like the other kind. With such a man at the head of such a service, and with such commanders in direct charge as Captain Dobbins of this important district, and Captain Williams and others to direct the crews of brave men at the stations, it is no wonder that the official reports show a steadily increasing efficiency in the good work of saving lives and property from disaster on our coasts.

Congress should and doubtless will, provide liberally for the extra stations proposed. It is in the line of public policy as well as humanity—and is in the direction of public sentiment as well. While all mankind do reverence when a great warrior passes from life, there is abundant evidence that in the public mind heroic deeds that are not done on the field of battle and have only humanity for their inspiration are daily becoming more and more widely recognized and appreciated at their true value, and that in the hearts of a great and generous people, as in the high vision of heaven that Holmes describes in his "Two Armies:"

While Valor's haughty champions wait
Till all their scars are shown,
Love walks unchallenged through the gate
To sit before the throne.

—*Buffalo Evening News.*

RESOLUTIONS OF RESPECT.

The following resolutions, addressed to Mrs. Monkman, were adopted by the Marine Engineers' Beneficial Association, at the last meeting December 30:

CLEVELAND, O., December 30.

The officers and members of the Marine Engineers' Association, No. 2, of Cleveland, do hereby tender to you their most heartfelt sympathy in this your hour of sad bereavement, in the loss of a son, and our association one of its members, and we recognize the fact that an all-wise Providence has taken from you a dutiful son and a useful brother from our association.

Resolved, That in the death of brother W. J. Monkman, who departed this life September 5, 1886, our association has met with a severe loss; one whose unflinching courage and sterling qualities entitled him to the respect of all.

Resolved. That said resolutions be published in the MARINE RECORD.

Resolved, That a copy of these resolutions be sent to the mother of the deceased, and a copy be kept by the association.

J. W. BAKER,
J. WOOD, } Com.

A CORRECTION.

BUFFALO, January 4.

To the Editor of the Marine Record.

I read an article in the MARINE RECORD, of December 9, which stated that the propeller Nebraska, with a cargo of copper, ran into Sandusky, in a gale for shelter and was frozen in at the I. B. & W. dock. I wish to contradict the statement, and would like if you would publish in your next issue the following facts: The propeller Nebraska

left Marquette on November 26, with a cargo consisting of 1,000 tons of copper, consigned to Buffalo, and 500 tons of pig iron for Sandusky, which latter place she reached safely on November 30, at 9 a. m. Wind fresh northeast. During the time she was unloading pig iron the wind shifted to the west, blowing a gale, water falling 3½ feet, which left the Nebraska two feet out of water, her whole length, where she remained until frozen in. Sandusky is one of the poorest harbors on Lake Erie to make in a gale. Captain Ward shipped the Nebraska's entire cargo to its destination by the I. B. & W. R. R., paying the Nebraska the full amount of freight same as if she had delivered it at Buffalo.

R. F. PARSONS,
Master of propeller Nebraska.

FRANKFORT MARINE REVIEW FOR 1886.

Special Correspondence to the Marine Record:

January 1—Propeller Saginaw Valley arrived, first of the season, and departed next day, passing through the Straits of Mackinaw, and went into winter quarters at Alpena, Michigan.

January 2—Propeller Geo. D. Sanford made a round trip to Manistee and returned. Tug D. P. Hall was still engaged in fishing. Weather was mild, and ice all broken up; nothing to impede navigation.

January 23—Fields of drift ice were noticed on Lake Michigan.

January 28—Tug Hall went into winter-quarters; too much ice in lakes.

January 30 New life saving station, in course of construction, was burned down.

February 27—Tug L. Q. Rawson arrived from Manistee.

March 1—Lake Michigan was calm as a mirror. Propeller Sanford made a run to Manistee and return.

March 15—Tug Rawson set her first gang of nets in Platte Bay.

March 17—Pier head light was resumed on this date. Tug John Smith sprung aleak, was repaired and entered the fishing trade.

March 19—First outside arrivals, tugs Hannah Sullivan and Sweet Bros., from St. Joseph.

March 29—Point Betsy life station resumed. First sail vessel was sighted.

March 30—South Manitou harbor was cleared of ice.

April 5—Point Betsy life station resumed active operations, with Thomas E. Matthews keeper. Schooner Flying Cloud went ashore at Pierport, and was pulled off by propeller Sanford.

April 9—Scow J. B. Prime, first arrival from Milwaukee. Two other sail vessels passed, bound north. Tug Andrew Gale arrived from Muskegon.

April 10—Schooner C. Amsden arrived from Chicago.

April 15—Schooner Jos. Duvall put in a first appearance. Large fields of drift ice were reported between Manitou islands and the coast.

April 20—Propeller Champlain departed for the Straits.

May 4—Captain Loetter's fishing smack foundered, and the tug Canfield rescued the crew. The boat was recovered next day.

May 5—Tug Gregory collided with the schooner Amsden, smashing the vessel's stern. Tug G. R. Green arrived from Milwaukee to fish at that port.

May 25—Tugs Hall and Campbell having gone to Charlevoix, the Manistee tug Osgood was stationed here for some time, but as it did not pay, she was returned to her hailing port.

June 2—Steambarge W. H. Gratwick and consorts Fryer, Marvin, arrived from Tonawanda. Tugs C. Williams and Gregory had an exciting race.

June 3—A man fell headlong into the hatch of the barge Marvin, but was uninjured.

June 9—United States steamer Andrew Johnson arrived here and lay up nearly a week, repainting.

June 26—Steambarge Iron Duke ran ashore at Point Betsy during thick fog. She was released the same day by life saving crew and three fish tugs. She had the barge Iron Cliff in tow, and proceeded on her voyage uninjured.

July 2—Wrecking tug Leviathan visited Frankfort. A diver, John Dodd, engaged in working on the sunken propeller City of Boston, got her heater and brought it to Frankfort. Fishermen reported a very poor catch for some time, and tugs Green and Sweet Bros. left in search of better fishing grounds.

July 29—Tug John Smith broke her shaft near Sleeping Bear Point, and her crew ran twenty miles to Frankfort for assistance. She was towed in by the Sullivan.

August 24—Schooner Christine narrowly escaped running ashore at Point Betsy.

August 29—The U. S. lighthouse supply steamer Dahlia called here.

September——Schooners Gessine, built in 1853, Mt. Vernon, 1855, Otter 1863, Vermont, 1853, all traded here in September.

September 15—South gale, and the steambarge Canisteo, consorts Fulton and Eleanor sought shelter here.

September 21—Steamer Gratwick, with two barges, sailed for Tonawanda with two million feet of pine lumber.

September 23—Pleasure steamer Cyclone, of Cleveland, visited Frankfort.

September 30—Northwest gale, and first flurries of snow.

October 15—Northwest storm, and a big fleet was sheltered.

October 24—Scow Venture struck the dock breaking her yawl and rudder.

November 6—Barge Mabel Wilson was sighted in apparent distress by the Point Betsy life crew, about twelve miles northwest of the station. The keeper sent word to the tug Gregory, but the tug made no move. The vessel reached Manitou island next day.

November 9—Top of cabin and wreckage of schooner Ellen Spry were washed ashore at Point Betsy.

November 18—A terrible gale, cold and snow. Barges Menekaunee and Marinette, lumber laden from Oscoda to Chicago, were wrecked five miles south of Frankfort, with loss of fourteen lives; only one saved, Chas. W. Annis, of the Marinette, to tell the sad story.

November 20—Steambarge Manistique arrived. She was towing the lost barges when they broke adrift, and was driven to South Manitou island for shelter.

November 24—The bodies of John Davidson and Thomas Waters, of the Menekaunee, were found.

November 25—Tugs C. Williams, with wrecked schooner Morning Star, and Anna Wheeler with Libby Nau, sought shelter and left for Manitowoc on the 28th.

November 30—Point Betsy station was closed for the season.

December 3—Propeller Champlain made her last appearance, bound south, and next day the propeller Lawrence called, on her last trip to Cheboygan.

December 6—Tug Leviathan passed south; also, a steambarge with consort.

December 4—Tug D. P. Hall arrived from Charlevoix to winter at this port.

December 6—Schooner Anna Hanson arrived from Chicago with supplies; weather mild.

December 8—Schooner George Wescott was the last sail arrival of the season, from Milwaukee. She was towed here from Manistee by the tug Gregory.

December 9—Woodward's steam scow sprung aleak and waterlogged. She was repaired.

December 15—Tug Sullivan arrived from Manitou island, where she had sought shelter.

December 16—Frankfort pier head light was shut down for the season. F. R. Axtell, who was charged with taking clothing from a drowned seaman, was honorably discharged, there being no foundation to such a heathenish deed; it was a case of malice.

December 17—Schooner Annie O. Hanson, lumber laden, in tow of the tug John Gregory, departed for Milwaukee. They ran ashore the same day at the lighthouse on Two Rivers, Wisconsin. She was pulled off and taken to Manitowoc next day. Point Betsy light station was closed for the season.

December 18—The body of Mary Lafrey, the stewardess of the wreck Marinette, was found. General Hazen ordered the signal service at Frankfort to continue all winter.

December 22—Propeller Sanford which made daily trips to Manistee, brought the shipwrecked sailors of the Anna Hanson. Tug Hannah Sullivan departed for St. Joseph to engage in the fish trade.

December 24—Tug Hattie Winter arrived from Traverse Bay.

December 27—Coldest day of the season; northwest gale and snow.

December 29—Tug John Smith departed for Manistee to receive a rebuild. Tug Hattie Winter, for Saugatuck, her home port. Propeller Sanford arrived from Manistee.

December 30—A fine calm day. The Sanford sailed for Manistee, and returned at noon of December 31, the last trip of the year.

BURMEISTER.

ST. CLAIR.

The steamer Mary ran aground on Walpole island in the snow storm of Friday morning. The Beckwith was sent down from St. Clair and pulled her off.

[*Around the Lakes Continued from 1st Page.*]

MILWAUKEE.

Special to the Marine Record.

The steamer Wisconsin is the first arrival of the new year at this port, making port at 10 o'clock a. m. yesterday. To-day's arrivals are the steamers Dean Richmond and G. T. Burroughs. The steamer Roanoke cleared vesterday for Grand Haven, and steamer F. & P. M. for Ludington. There has not been ice enough as yet to impede navigation to any extent between here and east shore ports.

The weather has been exceedingly cold for the past two or three days, the thermometer registering from 18 to 22 degrees below zero with a big Z.

The steamer D. W. Rust is in Wolf & Davidson's stationary drydock, having her center board box removed and receiving new keelsons. After her repairs are completed she will go to Chicago to receive a new boiler, building for her there. The tug Gregory is having repairs made to her rudder and recalking. It has not been decided yet as to the amount of work to be done on the Maggie Marshall.

The Roswell P. Flower will be ready for launching in a few weeks. Captain Marion F. Tinney, formerly master of the steamer D. Ballentine, will assume command of the Flower. Captain Tinney's record rates A1 with a star, steel strapped, so he and the new boat will be very well matched. The boat is expected to be very speedy, and the captain, well, he will "get there all the same."

These are the days that the whales are upon us in all their glory, and the inoccuous desuetude of the poor box and clay pipe is sadly disturbed. Lordly skippers who, in the golden summer, are like unto lillies of the valley, and would smoke nothing less than two for a nickel Havanas, now sit down meekly and mildly in a rush-bottomed chair (i. e.) a chair with the bottom all rushed out) and contentedly filling a clay with any and every kind of tobacco, calmly proceed to spin yarns that make the landsmen gaze upon them with reverence and awe, and Sinbad, the sailor, were he among them, would be compelled to blush at his own insignificant feats; and Annanias, well, he's dead. The subject of debate among them to-day was "Tax Titles." It will be "Gold Mines" next. Captain Lund, of the Rust, divides his time pretty well between watching the aforesaid poor box and the Rust's coal pile.

Captain Wm. Chamberlain, of the steamer Sheriffs, paid us a visit last week. He has painted his duster and appears in elegant style.

The rumor is current that the Milwaukee Shipyard Company is arranging for the construction of a mammoth drydock on the property on Holton's slip, near the Sixth street bridge, recently purchased by the company from E D. Holton for $35,000. The cost of the proposed drydock, it is said, will be first-class in every respect. It is said that the scheme of building a drydock at Duluth, in which leading members of the Milwaukee Shipyard Company were interested with others, has been given up on account of the failure of Duluth real estate holders to make the concessions asked.

It is occasion for remark that the lake has not frozen over more during the late severe weather. The harbor itself is not entirely closed. The straits are full of heavy ice, which moves about with the wind. The propellers Wisconsin, Roanoke, and Dean Richmond are battling with the ice on the route from Milwaukee to Grand Haven, and even grain carriers are making short coasting trips. The propeller G. P. Heath went from Milwaukee to Kewaunee last week for wheat.

The schooner Harvey Bissell is not in a very promising shape for wintering. She went ashore at the Straits with a cargo of soft coal. Tugs released her and towed her to St. Ignace, where she sank at the dock. She will probably remain there all winter. It will be difficult to take out her cargo, as such coal sticks together badly and forms a solid mass.

Captain Ed. Thorp left for Buffalo to-day on a mission of peace. He left people here under the impression that he intends to handle a center board craft next season.

It is rumored that Captain Goldsmith, of the steamer Progress, will not sail next season, and it is very likely that the command will devolve upon his son, a chip off the old block, but he will have to hustle to acquire the record and reach the mark that his sire has made.

CAPTAIN KIDD.

LUDINGTON.

Special to the Marine Record.

F. & P. N. steamers are having some delay at Ludington discharging for want of cars. No. 1 left last night for Milwaukee, with full cargo of salt and merchandise. No. 2 is loading at R. G. Peters, east lake, with salt for Milwaukee.

Following is a list of vessels laid up at Ludington: Schooners Mercury, Sterling master; Mars, Young master; Conneaut, Swestor master; Daisy, Withey master; steam tug G. E. Brockway, Courtland master. The two harbor tugs Aldrich and Sport have been laid up some time. The small scow Laura Miller, ashore north of the piers, will winter on the beach.

D.

SANDUSKY.

The tug Mystic is having her upper works repaired at the B. & O. dock.

The tug Annie Robertson is being repaired at Captain Monk's drydock.

The machinery is being taken out of the steamer Red Jacket, preparatory to making a lighter out of her.

The propeller Nebraska, has been unloaded and the cargo shipped on cars.

CLAYTON.

Special to the Marine Record.

At a regular meeting of the M. E. B. A., of Clayton, held in their rooms on Friday evening, Dec. 31, the following officers were elected for the ensuing year: T. J. Rees, president; A. J. Graves, vice president; E. M. Cook, corresponding secretary; L. W. Kenyon; recording secretary; A. R. Brooker, financial secretary; E. W. Bradway, treasurer; Dan Farrel, chaplain; C. E. Graves, conductor; A. P. Graves, doorkeeper. This association is in good working order, is increasing in membership every year, and bids fair to be a very prosperous lodge.

The steamer Annie Laura will have a thorough overhauling during the winter, and will be one of the finest boats on the river next season.

The Canadian steamer Nipigon, which was recently burned, presents a sad appearance. She lies in about eight feet of water, and it is doubtful if anything will be done toward rebuilding her until spring.

Mr. Thomas J. Rees, chief engineer of propeller Minnie M., was united in marriage to Miss Alice Faire, on Thursday, December 30. That their journey through life may be one of happiness is the wish of their many friends.

Charles B. Calder, chief engineer of propeller Escanaba, is visiting friends here, and will remain about two weeks.

B.

PORT HURON.

Special to the Marine Recor

Capt. A. R. Lincoln, A. Hilliard, and A. Conkey were the sailors who took the responsibility of raising funds for the widows and orphans of the "Unknown" and "Marienett" disaster, and the Lord was on their side, for they raised between $700 and $800 in money to be given to the families. Everybody came to the front, for they knew it was for a good cause.

Now that all the sailors are home and have had a merry Christmas and a happy New Year they will revive their "Owl Club." They had a meeting, and I tell you Capt. Bill Curtis played his part well, but what pleased the crowd was the song by Capt. Frank Holland entitled "Where is McFarland To-night," Most of the time is spent in playing casino and eucher, with a sing once in a while. They sing one very fine song, which I will give in full in my next items.

The steambarge Rhoda Stewart will come out next spring a steeple compound. The work is being done at S. F. Hodge & Co's district. She will be in the same trade as before, Alpena to Toledo.

The marine reporting and tug office of Ed. J. Kendall will open as soon as there is anything to do in that line.

Captain D. W. Dana has removed his family here from Alvarna and will make this his home hereafter.

The frames are all up in the 30 foot space in the Curtis and she will be soon planked and then will have the appearance of a boat again.

There is a great deal of talk about the barges Menekaunee and Marinette being overloaded. Now, there is this much about it; anyone at all acquainted with Captain James Cox will say that he was a good and well posted man, and knew when his boat was loaded without asking the opinion of anyone. Myself and many others of his associates will say the same of him. The captain of the other barge I know nothing about, and of course, have nothing to say. There are always people who tell what they would do if they were there. They would be the first to haul in their horns. It is easy to talk when seated in a good harbor or in some office by a warm coal fire and lots of tobacco in the box to sponge from.

Captain N. Little is having his suit against the M. W. Paige and Missouri for sinking the barge Saginaw on Lake Huron, October 20. The general opinion is that the Missouri will have to foot the bill.

RUBNZY.

DEMURRAGE.

There is always in every charter a fixed or reasonable time to load and to discharge, and for the delay of the ship beyond this time without the fault of the master, he is entitled to compensation which, when fixed by contract, is called demurrage.

Usually the charter fixes the number of lay days and the amount per day to be charged for demurrage thereafter, but if the former is omitted the law implies a stipulation for a reasonable time, taking into account the trade and the port the vessel is in.

The law allows damages for any delay longer than the set lay days or the reasonable time implied, whenever such delay is attributable to the ship owner or his agents.

It is no excuse for the merchant that the time has been lost through ignorance of the ship's arrival, as he is bound to watch for it, and is not entitled to notice.

Where, however, the delay is caused by the master or shipowner, whether it be his neglect or inability to get clearance papers, or by the state of the weather or damaged condition of the vessel, the merchant is not liable.

An assignee of a bill of lading is liable for demurrage caused by his fault on receipt of the goods if the bill of lading expressly makes them deliverable on payment of same, even where he denies his liability for demurrage at the time he receives the goods. It is a question whether he would be also liable for demurrage at the port of lading.

If the bill of lading makes the goods deliverable on payment of demurrage as per charter, or "of the agreed freight and other conditions as per charter," or "of so much per day after a certain time," it is good evidence of the assignee's liability for demurrage incurred through his fault. The words "paying for the said goods as per charter with primage and average accustomed," refer only to freight and not to demurrage.

18 and 19 Vict., C 121, transfers the rights and liabilities of the contract in the bill of lading to the consignee or indorsee, and vests the same in him as if the contract had been made with himself.

Where there is nothing in the bill of lading in reference to demurrage which would amount to evidence of a contract, the master has no right of action against the consignee or indorsee for demurrage in consequence of his receipt of the goods thereunder.

In reckoning time for demurrage days and running days mean the same thing *i. e.* without excepting holidays in case of a usage or peculiar custom to the contrary it is different.

The time by law begins to run on the arrival of the ship at the usual or mentioned place of discharge in the port of destination, if there is nothing in the contract to the contrary.

The parties are of course bound by their contract if they have fixed a certain period from which the demurrage is to begin running.

A charter signed by both parties with the knowledge that the loading machinery is under repair is satisfied in the absence of agreement as to time, if the loading machinery begins to work within a reasonable time after the charter is made, and the vessel is loaded in a reasonable time after such commencement.

If the parties contract without notice of existing impediments and do not bargain against them, the freighter is liable for unreasonable delay.

Where the whole voyage has been prevented, the action should be for damages for non-performance of the charter contract and not one for demurrage.

Where phrases appear in a charter or a bill of lading with a peculiar sense derived from the custom of merchants, or the usage of a particular port, or the special trade in question, evidence is admissable to explain them.

The former rules respecting demurrage are all on the assumption that one freighter has loaded the ship.

In the case of a general ship where there are a number of freighters, each of whom has contracted to pay a certain rate per diem demurrage after a given day, the rule generally received as the only one sanctioned by legal principle is that the strict legal interpretation of the terms of the contract should govern. Therefore each party must pay the full rate he has contracted to pay for the full time the demurrage runs.

Lord Tenderden, however, who was of opinion that if a consignee can not get his goods because some other person's goods prevent him he is not liable for the delay of the vessel dissented from the above roll.

Where a ship is delayed after being loaded by ice or bad weather the freighter is not liable for demurrage for such delay.

Sundays are counted in demurrage unless there is a custom or bargain to the contrary.

Where the delay is caused by the customs officer's wrongful act or by the crowded state of the docks, the freighter is not excused.

Where nothing is said about the demurrage in the bill of lading, the cargo is to be received within a reasonable time, and as a general rule the consignors are under the above circumstances the proper persons to be sued.

A master who after being notified that another vessel is ready to proceed to sea, will not move out of her way to let her pass and so obstruct the stream for an unreasonable length of time is liable.

Demurrage is allowed to the owners of a ship damaged by collision during the time that she has been necessarily delayed repairing the damages of the collision and transacting business clearly connected with such collision.

Where no time is fixed for the discharge of the cargo the ship owner and merchant have each to do his part in reasonable time, and where the unloading is delayed by a cause over which the merchant has no control and the delay is without fault on his part he is not liable.

A fraction or part of a day counts as a full day.

Where a charterer is allowed a given number of days to unload, he takes the risk of any ordinary vicissitudes occurring to prevent loading after the ship is at the usual place of discharge and is liable for demurrage after the lay days are up.

A shipper in a general ship is liable for the faults of his co-shippers and undertakes to bear the risk of being prevented from discharging his portion of the cargo from the ship within the lay days by the default of other shippers or consignees.

A consignee has been held liable for unduly detaining a ship where there has been no express agreement as to demurrage, he being bound to unload within the time prescribed by custom of the port, but where the delay was caused by a most destructive fire occurring, the consignee was held not liable without proof of negligence, as in the absence of express condition he is only bound to use a reasonable dispatch.

A bill of lading so far as it is a contract cannot be explained by paroe, but so far as it is a receipt it may be.

In the United States demurrage becomes due for delay without express contract as an implied liability, and a lien exists for same.

In estimating demurrage a part of a day counts as a whole day.

An exemption clause exempting the charterer from liability under a charter party which provides for demurrage at the port of discharge only, does not apply to undue delay at the port of loading.

A captain or vessel owner has no lien on the cargo for demurrage.

PRIMAGE AND AVERAGE.

Primage is a payment in the nature of a gratuity made by the freighter to the master of the ship upon delivery of the cargo.

By virtue of long usage, it maintains its place notwithstanding the jealousy of the common law, which allows no man to have an interest against his duty.

Unless expressly mentioned in the charter or in the bills of lading it is not recoverable.

Average denotes several petty charges which are to be borne partly by the ship and partly by the cargo, such as the expense of trimming, beaconage, etc.

Both above charges are almost out of date on the inland waters of America, and charters are generally made without reference to them.—*Lewis' Marine Manual.*

CHICAGO MARINE STATISTICS.

The total value of exports by lake to Canada for the past year amounts to $1,948,176.60. American vessels carried $1,138,289.21, and Canadian vessels took $809 887.48. Corn to the number of 2,396.271 bushels, and wheat numbering 1,092,909 bushels were exported. Cured meats amounting to 62,534 pounds were shipped, as were also 20 tons of hay.

The principal coastwise shipments by lake from Chicago during the year included: Flour, 1,310,079 barrels; merchandise, 1,157,299 packages; wheat, 10,559,756 bushels; corn, 38,573,270 bushels; oats, 3.216,510 bushels; flaxseed, 3.509,466 bushels, tea, 11,139 chests; coffee, 5.269 sacks; lard, 155,406 tierces; oil cake, 159.350 bags; hay, 32,249 bales; pork, 33,582 barrels; barley 286,308 bushels.

On the other hand, the coastwise receipts by lake included: Merchandise, 4,749.782 packages; sugar, 579,160 barrels; lumber 1,427,760 M feet; shingles, 762,848,000; railroad ties, 2,791,647; telegraph poles, 60,507; coal (bituminous.) 165,694 tons; coal (anthracite,) 724.632 tons; iron ore, 418,106 tons; pig iron, 31,001 tons; other iron, 1,839 tons; coffee. 275,742 sacks; tea, 9.433 chests; liquors, 21,486 packages; potatoes, 119,740 bushels; wheat, 28,646 bushels.

The detailed statements of the shipments of grain by lake to foreign ports shows: Wheat, 1,108,174 bushels; corn, 7,666 359 bushels; oats, 1,347,012 bushels. Total, 10,121 545 bushels.

The arrivals of vessels at the port of Chicago during the year just closed numbered 10,180, with a tonnage of 3,546,309; at South Chicago, 561, and a tonnage of 305,198; at Michigan City 416 vessels, with a tonnage of 74 811.

The clearances were as follows: From Chicago. 10,254 vessels; tonnage, 3,590.276; South Chicago, 546 vessels; tonnage, 286,359; Michigan City, 415; tonnage, 74,127. The totals in the three ports: Arrivals, 11,157 vessels; tonnage, 3,926,318. Clearances, 11,215 vessels; tonnage, 3,950,762.

The following are the number and classes of vessels owned in the district of Chicago, with their combined tonnage:

	Net Tonnage.
36 propellers	10,295 63
82 tugs	1 443 88
4 side-wheel steamers	424 43
14 ste m yachts	31.29
26 steam canal boats	1,946.03
203 schooners	45,200.57
6 sloops	56 82
4 yachts	253.69

The totals are: 375 vessels, having a net tonnage of 59,652.34 tons.

The number and class of vessels laid up in the port of Chicago, together with their net tonnage is as follows:

	Net Tonnage.
47 propellers	38 915
219 schooners	60.946
39 tugs	759
11 sailing yachts	218
5 steam yachts	115
2 steam canal-boats	131

Totals: 323 vessels and a tonnage aggregating 101,084 tons.

During the year there were built in the district of Chicago five new vessels, all of wood. They were the tug Leo, Mary A. Winter, and F. O. Earnshaw; the propeller Vernon, and the schooner Laura Wilber. They have a combined capacity of 659.30 net tons.

Eleven vessels, belonging to the district of Chicago proved a total less during the year. They were as follows:

Propeller A. Booth, schooners George M. Case, John Bean, Jr., J. F. Tracy, Helen. Ellen Spry, Belle Walbridge, Metropolis, Coaster, South Haven, and City of Sheboygan. The total tonnage was 2,226 87 The estimated values of these vessels was $87,500 upon which there was an insurance of $37,500. Ten lives were lost.

The coastwise receipts by lake at the port of South Chicago were confined principally to the following: Merchandise, 3.293 packages; lumber, 39,330,000 feet; shingles, 9,550,000; railroad ties, 105,985; coal, 43,497 tons; salt, 255,132 barrels; iron ore, 317,412 tons. The shipments were: Wheat, 451.300 bushels; oats, 254,09' bushels; oil cake, 20 bags; iron, 40 tons; wood, 18 cords.

OFFICIAL NUMBERS AND SIGNAL LETTERS.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, WASHINGTON, Dec. 27, 1886

To the Editor of the Marine Record:

Following is a list of merchant vessels of the United States to which official numbers and signal letters were assigned by the Bureau of Navigation, Treasury Department, during the week ended Dec. 25, 1886:

Official Number.	Signal Letters.	Rig.	Name of Vessel.	Tonnage. Gross.	Net.	Home Port.
			SAIL VESSELS.			
76 662	.....	Sc.	James E. Jouett,	20.40	19 38	Key West, Fla.
91,894	.....	Sc.	Maud.	5.96	.....	Cedar Keys, Fla.
91,895	.....	Sc.	Mary Bidwell.	65.78	62.50	San Francisco, Cal.
			STEAM VESSELS.			
106.448	H D P H	St. s.	Alva,	1151.24	600.55	Wilmington, Del.
106.449	.....	St, s.	Alafia,	31.82	21.69	Mew York, N. Y.
126.403	.....	St. s.	Clara,	49.72	23.53	Jacksonville, Fla.
126,404	.....	St. s.	Carlos Pacheco,	172 07	100.44	San Francisco, Cal.
140,861	.....	St. yct	Little Mac,	25 11	19 01	Dunkirk, N. Y.
130.364	.....	St. p.	N. S Bentley,	431 83	401 42	Coovallis, Oregon.
145 439	.....	St. s.	Theseus,	58 03	29.01	Cairo, Ill.

C. B MORTON, Acting Commissioner of Navigation.

THE GREAT EASTERN.

This steamship, which for more than a third of a century has remained the largest ever constructed, was designed about 1853, by the distinguished engineer, Brunel, for the trade between England and Australia. It was calculated that a ship could be built having sufficient capacity to carry enough coal for the round trip in addition to a great many passengers and a paying cargo. She was built by J. Scott Russell at his works in Millwall, London, and was ready to be launched in November, 1857, but could not be moved until the following January Even that early in her history her unlucky star assumed the ascendency, and in all her subsequent wanderings seemed ever present.

When launched, her cost was $3,831,520.

The Great Eastern is 692 feet in length, 83 feet beam, and 27,000 tons actual capacity. She was built of iron, and double cased to about three feet above the water line. The motive power consisted of eight engines, four for the paddle wheels, which were 56 feet in diameter, and four for the screw, 24 feet in diameter. The cylinders of the paddle engines were 74 inches in diameter by 14 feet stroke; and those of the screw were 84 inches in diameter and 4 feet stroke. The heating surface of the boilers supplying the paddle engines was 44,000 square feet, while that of the screw engine boilers was still larger. The united nominal horse power was 4,000.

The first voyage to New York was made in 1860, and during the voyage she nearly averaged 336 miles per diem, or 14 miles per hour. Steam was carried at a pressure of from 15 to 24 pounds, and the total quantity of coal consumed was 2,877 tons. Since then her history has been strange and eventful. Although we can not but regard the Great Eastern as a failure in payability, yet she is not so in a scientific sense. She is a grand experiment."

This ship, which notwithstanding the many hard knocks she has received, seems to be in almost as good condition as when launched, now attracts attention because of the new use she is put to. For some time she has been exhibited at Liverpool, and has lately been taken as a "show ship" to Dublin. It is to be hoped that this venture will prove more remunerative than former ones; it certainly should, since the vessel is well worth a long journey to see, and a critical examination of her hull and machinery can not fail to be both instructive and interesting. It is to be hoped that those in charge will brave the dangers of the Atlantic, and bring the leviathan once more to this country.

At a meeting in New York City of the Executive Committee of the Canal Union on the 28th the sub-committee reported the draft of a bill which will be presented to the legislature at the opening of the session. The bill, which has been the subject of the preliminary conferences, both at Albany and in this city, is for the improvement of the canals. The committee deemed it imperative that the bill should provide for a new appropriation of at least $500,000, the sum demanded by the Syracuse Convention of August last. It was also decided that the reappropriation of $113,000, the unexpended balances of previous appropriations for canal improvements; also of the unexpended balance of $29,000 from the lock bill of the last legislature and the Fortestport dam, should be provided for in separate bills. Of the new appropriation of $500,000 the bill apportions $400,000 for lengthening one tier of eight or more locks west of Syracuse and one tier of eight or more locks east of Syracuse on the Erie canal, said locks to be designated by the superintendent of public works and the state engineer and surveyor so as to secure the best possible results. There are to be expended $85,000 for deepening the Champlain canal and $15,000 to complete the improvements now being made on the Oswego canal.

HE HANDLED SCHOONERS ONCE

Captain Marlingspike had to "set them up for the boys" the other night, and acknowledged that he had been bought and sold for a gudgeon. Stout, hale, and bluff he went up to the mahogany for his refreshment, and stood next to a tall, solemn-looking man, who had a very red nose. "Cap" was in his talking mood, and he commenced to sling off a yarn about the lakes. The way in which nautical slang was paid out would have made any landsman's hair stand on end. Foresails, jibsails, mainsails, royals, t'g'nmasts, luffing, sou-sou-wests, nor-by-nor'ers, land-lubbers, and reg'lar hurricanes were trotted out in bewildering procession. But the stranger with the red nose did not wince a bit. On the contrary, the more the wild technicalities were flung around, the more he appeared to be interested. He kept drawing closer to the captain's group of listeners, then fixed his glassy eyes upon Marlingspike's face, placed his hands behind his back, and when any extraordinary stream of ship-shape lingo was let out he would nod his head with great gravity. The captain was flattered by the red nosed man's attention, and he suddenly said:

"Excuse me, sir; but you appear to be a sailor, too. I can generally tell when a man's no land'man, by the cut of his jib and the shape of his craft. Are you running on the lakes now?"

"No; not exactly," replied the red-nosed man.

"Perhaps you're hull's being laid up for repairs or for the season?"

"Well, I haven't much to do for a fact, now," said the red nosed person solemnly.

"What may your vessel be? Steamer or schooner, Cap?" asked the gentlemen, familiarly.

"I haven't got any vessel now, though I've had a good many schooners in my time—yes, a good many," said the red-nosed man, reflectively, his eyes fixed dreamily on the ceiling.

"Handled schooners, eh."

"Yes, many of them. Perhaps as many as any man in Cleveland?"

"Is that so? That's a good deal to say. What was their style, their cut, you know? Were they clinker-built, full rigged, centre-boarded, or how?" asked the captain, evidently getting very much interested; "name your style, Cap."

"My schooners were lager beer schooners, and they is so yet, thank you," replied the red nosed stranger, without moving a muscle of his face.

You should have seen the old man's face as he stared at that red-nosed mummy. Then without saying a word he walked up to the bar and called up all hands.

It took him six hours and thirteen minutes to recover from the shock. When he ventured to ask who the solemn, red nosed man was, the bar-tender told it was Sanctimonious Bill, one of the most inveterate bums in the city.

"Dang me!" exclaimed Captain Marlingspike, as he brought down his fist; "I ought to have knowed he wasn't no sailor. Probably never saw water in his life. I have got to catch a car on Superior street. Good night. Well, just to think I was such a goldarned old idiot!" he was heard to mutter, as he vanished through the door.

The smallest amount of ship building in Maine for the past ten years has been done in 1886. In 1877, the tonnage of vessels constructed in the Maine shipyard amounted to 76,380 tons. From 1871 to 1881 there was a decrease in work done, but in 1882 the tonnage was 75 084. Since then each year has witnessed a total suspension of work in an increasing number of yards, until only 56 vessels with a tonnage of 15,094 had been built in that year. The only demand is for vessels for fishing purposes and the coasting trade. The outlook appears even more discouraging than a year ago.

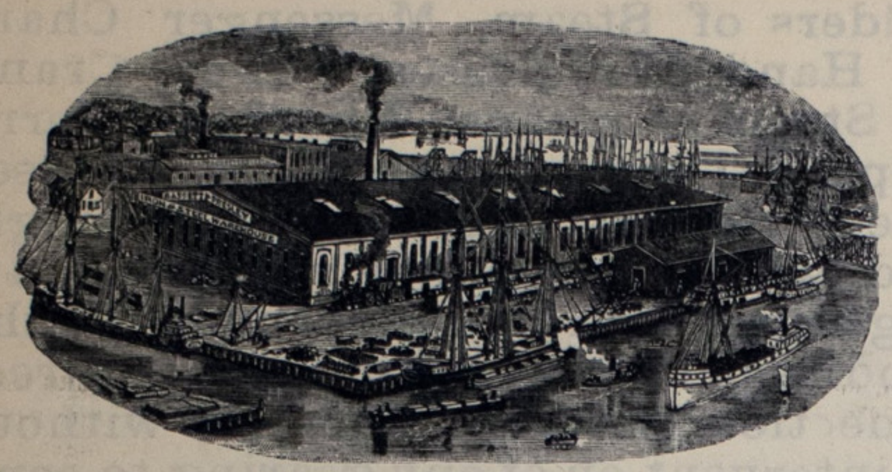
L. Katzenstein & Company are doing a thriving business in their self acting metal packing for piston rods, valve stems, etc. Besides constantly supplying numerous vessels in all parts of this country and abroad, they have filled the following orders in New York City during the past week: Steamers Caracas, Noordland, Wieland, City of Augusta, Alvena, El Dorado, State of Texas, Rugia, Pennland, Warwick, Hungaria, Suevia, St. Marcus, Holland, H. F. Dimock, Westerland, Lake Winnipeg; for the Deep Sea Hydraulic Dredging Company; N. Y. Lighterage Company; propeller Redfield and others. This packing is taking the place of all others.

IRA B. BASSETT. GEORGE PRESLEY, Jr.

BASSETT & PRESLEY,

(Successors to W. H. McCurdy & Co.)

Office and Warehouse, cor. Elm & Hemlock Streets, Cleveland, O.



WHOLESALE DEALERS IN

BAR, BOILER, HOOP, ANGLE AND SHEET IRON.

Nails, Railroad and Boat Spikes, Boiler, Tank and Cooper Rivets, Swedes Iron, Boiler Tubes, Nail Rods, etc., Etc., Etc.

We Represent in this Market the Following Well-known Manufacturers:

Andrews Bros. & Co. .....Youngstown, O. BAR IRON AND POLISHED SHAFTING.	Dilworth, Porter & Co., Limited..Pittsburg, Pa. RAILROAD AND BOAT SPIKE.
Reading Iron Works.....Philadelphia, Pa. BOILER TUBES.	Hoopes & Townsend,.....Philadelphia, Pa. BOILER AND TANK RIVETS.
Central Iron Works.....Harrisburg, Pa. BOILER PLATES.	Sanderson Bros. Steel Co,.....Syracuse, N. Y. CAST STEEL.
Lindsay & McCutcheon,.. .....Pittsburg, Pa, HOOP, BAND & STAR HORSESHOE IRON.	Joseph Corns & Sons ....Massillon, O. CROWN STAY BOLT IRON.
George W. Johnson, ...Newcastle, Pa. TANK SHEET IRON.	Pencoyd Iron Works,.....Philadelphia, Pa. ANGLE IRON.

A Complete Stock of all above Goods in Our Warehouse.

SAMUEL F. HODGE & CO.,

MANUFACTURERS OF

MARINE,

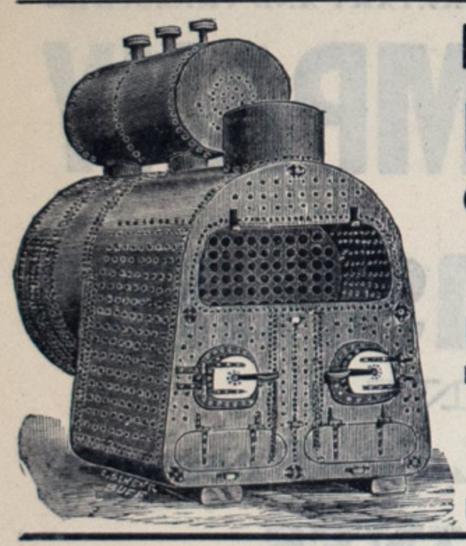
Stationary & Portable Engines,

MINING MACHINERY AND

PROPELLER WHEELS,

Riverside Iron Works, 314 to 326 Atwater Street,

DETROIT, MICH.



EAGLE BOILER WORKS,

M. RITER, Prop'r,

Cor. Indiana & Mary St.,

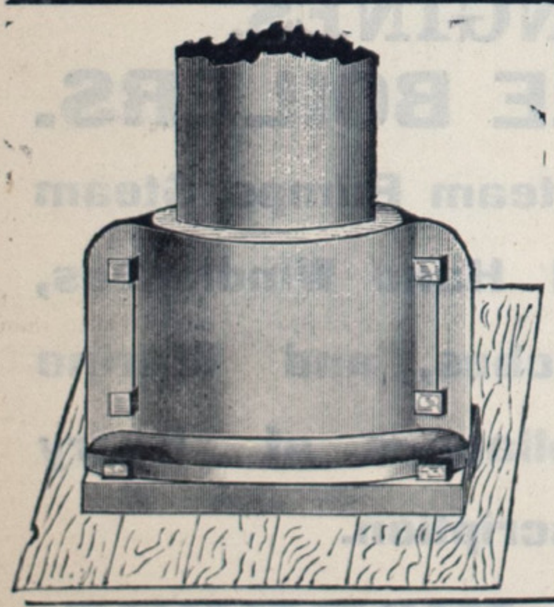
BUFFALO, N. Y.

MANUFACTURER OF

High and Low Pressure

Marine, Stationary, Portable, Locomotive and Upright Boilers; also, Salt Pans, Smoke Pipes and Heavy and Light Plate Iron Work of all Descriptions.

REPAIRS PROMPTLY ATTENDED TO.



C. A. RICHARDSON'S

Rudder Holden

AND

SUPPORT.

A Practical and Invaluable Invention,

Patented May, 1884

Whole or Half of Right for Sale.

C. A. RICHARDSON, Alpena, Mich.

O. & P. COAL CO. & THOS. AXWORTHY.

FUEL DEPARTMENT.

PRESLEY, ARTHUR & CO., AG'TS.

Steamboats, Tugs, etc, Coaled Day and Night.

DEALERS IN LACKAWANNA ANTHRACITE COAL.

Docks: Ft. West River St., Whisky Island, C. P. R'y. Slip, Government Pier

OFFICE 130 RIVER-ST., CLEVELAND, OHIO.

ST. MARY'S, OHIO. MONTPELIER, OHIO. } OAR MILLS. NEPTUNE ANCHOR WORKS.

DEGRAUW, AYMAR & CO.,

MANUFACTURERS AND IMPORTERS OF

CORDAGE, OAKUM, WIRE ROPE,

Chains, Anchors, Oars, Blocks, Buntings, Flags,

Cotton and Flax Ducks, Russia Bolt Rope.

MARINE HARDWARE AND SHIP-CHANDLERS' GOODS GENERALLY.

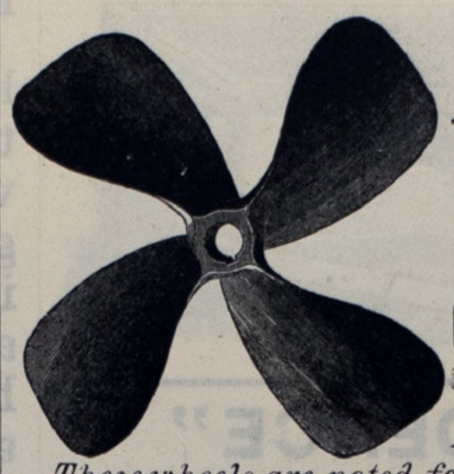
Nos. 34 and 35 South Street, NEW YORK.

H. G. TROUT,

KING IRON WORKS,

BUFFALO, N. Y.,

MANUFACTURER OF



Triple Expansion Marine Engines,

Three Cylinder and Fore and Aft and Steeple Compound Marine Engines,

High and Low Pressure Engines,

Propeller and Tug Wheels.

These wheels are noted for their extra speed and towing power, or a proportionate saving of coal.

PRICES QUOTED ON APPLICATION.

JUST PUBLISHED. *NOW READY*

LEWIS' MARINE MANUAL,

A SUMMARY OF THE LAW

RELATING TO OR IN ANY WAY CONNECTED WITH THE

Shipping and Mercantile Interests of the Lakes

And the Sea-coast Waters of Canada and the United States,

By EDWARD N. LEWIS, Proctor in Maritime Courts.

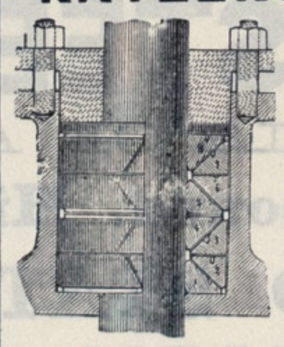
OVER 500 PAGES - - - PRICE $2-50

Address MARINE RECORD OFFICE, Cleveland, O.

SEND FOR MARINE LAWBOOK

PRICE ONE DOLLAR

KATZENSTEIN'S



SELF-ACTING METAL PACKING

FOR PISTON RODS, VALVE STEMS, Etc.

Adopted and in use by the principal Iron Works and Steamship Companies within the last eight years in this and Foreign countries. Also flexible tubular metallic packing for slip-joints on steam pipes and for hydraulic pressure. For full particulars and references address

L. KATZENSTEIN & CO

357 West St., between Leroy and Clarkson-st, N. Y.

CAPT. THOS. WILSON, who uses this packing on his Steamers, and THE MARINE RECORD are Agents for Cleveland and the Lakes.

ROBERT E. HILLS,

57 & 59 North Wells St., Chicago, Ill.
Telephone 3321.

STEAM FITTING AND HEATING,

Wrought Iron Pipe & Fittings.

ENGINEER'S SUPPLIES.

General Jobbing Work Done Promptly.

Also, Proprietor of North Side Brass Works.

WM. H. RADCLIFFE,

Shipbuilder and General Repairing.

OLD RIVER BED, Ft. OF TAYLOR St.,

CLEVELAND, O.

DAVID BARNHISEL, Agent.

DOMESTIC & STEAM COAL

Cleveland, Ohio

VESSEL PROPERTY FOR SALE.

STEAMBARGE FOR SALE.

This is one of the finest steambarges on the lakes, and was built in 1884. She is in good condition in every respect, serviceable, easy to load and unload, and a great favorite. She can not be duplicated for the same money. Her dimensions are 131 feet keel, 143 feet over all, 23.4 feet beam, 8.4 feet depth of hold, and is classed A1½ by Inland Lloyds. She carries two masts. Her carrying capacity is 400 to 425 tons or 14,000 bushels of wheat, or about 240,000 feet of lumber on a dratt of 9 feet 9 inches. Her engine is high pressure 18x20 and her boiler 6½x12 feet of 7-16 Otis steel. Speed 10 miles loaded or 11½ light.

Address MARINE RECORD, Cleveland, Ohio.

FOR SALE.

STEAM PASSENGER TUG TEMPEST.

Steel hull 60 feet over all, 10 feet beam, 6 feet hold. Engines fore and aft compound, 8 and 14x12 Otis steel boiler, return flue, 110 pressure. Complete passenger outfit for forty-three passengers. Speed 12 to 16 miles. H. F. LOOMIS, 151 Arlington-st, Cleveland.

A1 TUG FOR SALE.

This tug is 52 feet over all, 13 feet 3 inches beam, and 6 feet 6 inches depth of hold Engine, 13x14; steel boiler 4 feet 6 inches diameter by 9 feet long. The hull was built by Geo. H. Notier, Buffalo, and is an excellent model and well built. The tug is nearly new, having done only five month's work since she came out new last summer. She has a poop deck and finished cabin fore and aft, and classes A1. Price, $4,300. Address MARINE RECORD OFFICE.

FOR SALE,

A POWERFUL RIVER AND HARBOR TUG.

Length 87 feet, breadth 17 feet, depth 9 feet, draws 9 feet New tonnage 40, old 81. Engine 22x24. She is allowed 90 pounds of steam. Has new main valve, new throttle valve, new eccentrics, two new tow posts, four new timber heads, one new metallic life boat and new wheel, ironed all around for work in ice. Cabin, pilot house and engine room remodeled. Can carry sixty (60) tons fuel, has forty life preservers, water-tight bulkheads, and is allowed to carry passengers. She rates A2, valued in Lloyd's at $10,000, and is warranted in first-class shape. Address MARINE RECORD OFFICE, Cleveland, Ohio.

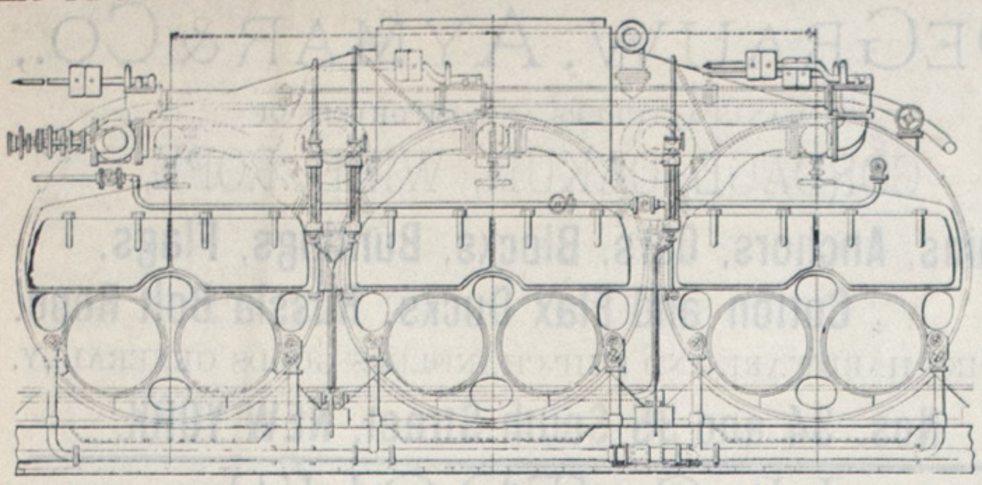
WINDLASS FOR SALE.

The undersigned have a Hadfield Patent windlass for a one and three-eighths inch bar chain for sale cheap.

JOHNSON & BATES,
927 Erie St., Racine, Wis.

GOLD fields are scarce, but those who write to Stinson & Co., Portland, Maine, will receive free, full information about work which they can do, and live at home, that will pay them from $5 to $25 per day. Some have earned over $50 in a day. Either sex, young or old. Capital not required. You are started free. Those who start at once are absolutely sure of snug little fortunes. All is new.

LAKE ERIE BOILER WORKS.



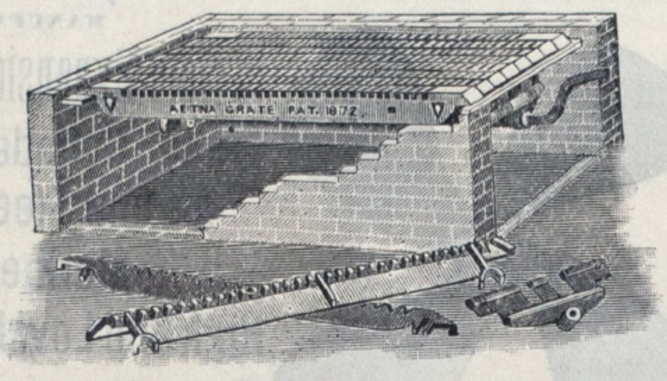
The best equipped plant in America for the manufacture of Modern Marine Boilers

BUFFALO, NEW YORK

THE ÆTNA GRATE.

G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.



Globe Iron Works, Manufac's.,
Office and Foundry, corner of Elm and Spruce-sts., CLEVELAND, O.

"THE PROVIDENCE"

WINDLASSES, CAPSTANS, ETC.,

IN CANADA.

THE WINDSOR FOUNDRY Co

Have made arrangements with the American Ship Windlass Co. to build their Celebrated Machinery, with latest improvements for use on Ship-board for Canada.

+FOR PRICES, PLANS AND ALL OTHER IAFORMATION APPLY TO+

THE WINDSOR FOUNDRY CO.,
WINDSOR, HANTS COUNTY, NOVA SCOTIA.

Established in 1857.

AMERICAN SHIP WINDLASS CO.,

Builders of Steam, Messenger Chain and Hand Windlasses, Power, Crank and Steam Capstans, Wharf and Ferry Drops. Their Capstan Windlasses have a Power Capstan with a single head which has power and speed arrangement entirely independen of the Windlass, and which makes a direct connection with the Windlass without the intervent on of any gearing to complicate it and inc ease the friction.

In all their styles of Ste m Windlasses they make .. direct connection between the engines and the windlass without counter shafts or additional gearing. This saves friction and liability to break down, and conduces to durability and ease in operating. They also have a counterbalance for the engines, and an automatic lubricator for worm and worm gear and the engines are placed together in the most accessible position. Th - above improvements and others too numerous to mention, but which are familiar to Masters, Owners and Builders, are covered by Patents owned exclusively by this Company. For plans and information

Address,

FRANK S. MANTON, Agent. P. O. Box 53, Providence, R. I.

H. M. HANNA, PRESIDENT. JOHN F. PANKHURST, VICE PRESIDENT AND GENERAL MANAGER. LUTHER ALLEN, SECRETARY AND TREASURER

THE GLOBE IRON WORKS COMPANY

BUILDERS OF

IRON AND STEEL STEAMSHIPS

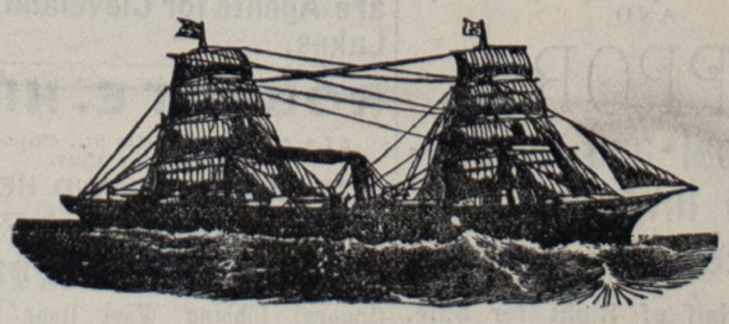
AND VESSELS OF ALL DIMENSIONS,

Triple Expansion, Compound, High Pressure and Low Pressure

MARINE AND STATIONARY ENGINES,

MARINE, STATIONARY & PORTABLE BOILERS.

Blast Furnace and Rolling Mill Machinery, Hoisting and Pumping Engines, Portable Hoisting Engines.



Steam Pumps, Steam and Hand Windlasses, Winches, and Marine Appliances of Every Description.

GENERAL SHEET AND PLATE IRON WORKERS,

Machinists, Boiler-Makers and Founders.

Builders of

Iron Steamships "Onoko," "Wm. Chisholm," "J. H. Devereux," Etc.
Steel Steamship "Spokane."
Passenger Steamer "Darius Cole."
Steam Yacht "Twilight."
Iron Tugs "International" and "Record."

OFFICE & WORKS, Spruce and Elm Streets.
IRON SHIP YARD, Old River Bed, foot of St. Paul St

CLEVELAND, OHIO.